ANNUAL REPORT

OF THE

BUREAU OF HEALTH

FOR THE

PHILIPPINE ISLANDS

PERIOD FROM SEPTEMBER 1, 1904
TO AUGUST 31, 1905

MANILA
BUREAU OF PRINTING
1906

40526

UNIV. OF MICH.
SEP 14 1906
RECEIVED

UNIV. OF MICH.
SEP 14 1906
RECEIVED

P55

ANNUAL REPORT

OF THE

BUREAU OF HEALTH

FOR THE

PHILIPPINE ISLANDS

PERIOD FROM SEPTEMBER 1, 1904
TO AUGUST 31, 1905

MANILA
BUREAU OF PRINTING
1906
40526

TABLE OF CONTENTS.

Page.

Report of Bureau of Health, Part I 7

Report of Board of Health, Part II 14

EXHIBITS.

Statistical tables, Bureau of Health 101

Report of the chief health inspector for the Philippine Islands 141

Report of the sanitary engineer for the Philippine Islands 156

Report of the physician in charge of San Lazaro Hospitals 166

Some observations on leprosy in the Philippine Islands, with an account of its treatment with the X-ray, by the physician in charge, San Lazaro Hospitals 171

Report of physician in charge, Sampaloc Hospital 180

Report of the chief veterinarian, Bureau of Health for the Philippine Islands 182

LIST OF ILLUSTRATIONS.

PLATE I. Board of Health ambulance.
II. Board of Health ambulances.
III. The old buildings of the San Lazaro Leper Hospital at Cebu, P. I.
IV. The present San Lazaro Leper Hospital at Cebu (view No. 1).
V. The present San Lazaro Leper Hospital at Cebu (view No. 2).
VI. Sampaloc Hospital, Manila, P. I.
VII. Operating room, Sampaloc Hospital.
VIII. A group of American sanitary inspectors.
IX. A group of assistant sanitary inspectors and sanitary police.
X. Station A, Board of Health, San Nicolas district, Manila.
XI. A street scene in Health district No. 1, Station A.
XII. Filling in moat.
XIII. Filling in low lands in Manila.
XIV. A view of the Palacio Gate in the city wall, showing the moat filled with water.
XV. Type of Filipino house in Manila.
XVI. Type of Spanish house in Manila.
XVII. Type of American house in Manila.
XVIII. A nipa district.
XIX. Matadero (municipal slaughterhouse), Manila.
XX. Interior view of matadero (municipal slaughterhouse).
XXI. Method of killing hogs at the matadero.
XXII. Method of killing cattle at the matadero.
XXIII. A street view of the Divisoria Market.
XXIV. Disinfecting disinterred bones of Chinamen before shipment to China, their final resting place.
XXV. San Lazaro morgue and crematory.
XXVI. Steam disinfecting apparatus, ready for use.
XXVII. Section of steam disinfecting apparatus.
XXVIII. Section of steam disinfecting apparatus.
XXIX. San Juan de Dios Hospital, Manila.
XXX. St. Paul's Hospital, Manila.
XXXI. Niches in Paco Cemetery.
XXXII. Insane male patients, San Lazaro Hospitals.
XXXIII. Insane female patients, San Lazaro Hospitals.
XXXIV. Dormitory in insane department, San Lazaro Hospitals.
XXXV. Female ward, insane department, San Lazaro Hospitals.
XXXVI. Interior view of morgue.

PART I.

REPORT OF THE BUREAU OF HEALTH.

By VICTOR G. HEISER, *passed assistant surgeon, United States Public Health and Marine-Hospital Service, Commissioner of Public Health.*

[September 1, 1904, to August 31, 1905.]

DEPARTMENT OF THE INTERIOR,
BUREAU OF PUBLIC HEALTH,
Manila, P. I., September 14, 1905.

SIR: In accordance with Act No. 157, I have the honor to submit herewith a report of the operations of the Board of Health for the Philippine Islands for the year ending August 31, 1905. My predecessor, Maj. E. C. Carter, Medical Department, United States Army, prepared the report up to and including March 31, 1905. Major Carter retired as Commissioner of Public Health April 27 of this year. In his report he covered all the general subjects for the year, and only the principal events, from that period to the end of the year, will be briefly summarized by the undersigned. In order to avoid confusion, statistical tables for the entire fiscal year have been substituted for the individual tables which covered the periods of service of the two Commissioners of Public Health who have acted during the year.

CHOLERA.

After an absence of this disease since April 18, 1904, it again made its appearance in August, 1905. From time to time during the year, but more particularly during the early part of August, deaths were reported from various parts of the city, and from the provinces, the clinical symptoms of which had been those of Asiatic cholera. A careful bacteriological examination was made of each case by the Bureau of Government Laboratories, but no cholera organisms could be found. Some of the cases were strongly suggestive of meat poisoning, and investigations are still being conducted by Dr. Richard P. Strong, to determine whether the organisms peculiar to meat poison, notably the bacillus proteus, can not be isolated. The same precautions were taken, however, as if the cases had been cholera, and included, among other things, the disinfection of the premises in which they occurred.

On August 23, while P. A. Surg. John D. Long, of the Public Health and Marine-Hospital Service, was performing autopsies at Bilibid Prison, he encountered one case, in the person of a prisoner of that institution, which presented the gross pathological lesions usually found in cholera, and specimens were immediately sent to the Laboratory for examination, and on the morning of August 25, Dr. Richard P. Strong, the Director of the Biological Laboratory, reported that the spirilla of Koch had been found in the specimen submitted—the first laboratory confirmation of the presence of the disease.

Simultaneously with the appearance of the disease in Manila, suspicious cases of cholera were reported from Fort William McKinley, the diagnosis of which was subsequently confirmed. On August 27 information was received that the disease had also made its appearance some time prior to August 20, at Jala Jala, Rizal Province, and subsequently additional reports were received which strongly indicated that the disease had been present at about the same time at Pateros, Pasig, Taguig, and Muntinlupa, all of which are places situated either on the upper Pasig or ports on Lake Laguna. Owing to the fact that the disease was reported to be present at Hongkong, it was first thought that it might have been imported by vegetables, but subsequent investigation showed that the entrance of green vegetables from China had been prohibited since February, 1905, and that only potatoes, onions, and garlic were admitted, and none of these products had entered the Philippines since June, 1905. The present indications are, also, that the disease made its appearance in Rizal Province before any cases were detected in Manila, and the general opinion is that some old center of infection again became active. This view seems plausible when it is remembered that the last case of the previous epidemic was reported from Malahi, Laguna, and that some of the first cases, this time, were reported from Jala Jala, Rizal, which is a distance of not more than 7 miles from Malahi. The belief is rapidly gaining ground among medical men that the disease is indigenous to the Philippines.

Active measures for combating the disease were at once instituted. Owing to the dissatisfaction and great opposition which was caused by the land quarantine which was placed around the infected districts in the epidemic of 1902, and the futility of the undertaking, it was thought advisable to attempt to combat the disease by a campaign of education, the object of which was to attain the prompt reporting of the cases, the isolation of the sick, and the disinfection of the infected premises. To this end, the coöperation of the Bureau of Education and the different religious denominations was obtained. Over 150,000 circulars, containing sixteen simple rules with regard to the spread of cholera, have been distributed throughout the Islands, and their contents are being made known to the inhabitants of every city, pueblo, and barrio.

With the exception of the instances already mentioned, the disease has been, so far, confined to Manila. The spread of cholera in the city this time has been entirely different from that of 1902. At that time the disease commenced in the Farola district, and from there spread to other portions of the city and then gradually throughout the Islands. This time sporadic cases have been reported from almost every section of the city, but no subsequent case has been detected in any house which, so far, has been reported as infected. The earlier cases were of the most virulent type, and nearly all were of the cholera sicca form of the disease, the victims dying within a few hours after being attacked.

In view of the fact that the disease has only existed during the last week of the year covered by this report, it is impossible to give much exact data with regard to the outbreak. In Manila there were 45 cases between the 23d and 31st of August, inclusive, of which 41 died. Ten was the largest number that occurred on any one day. In the provinces there were 56 cases, with 48 deaths.

TREATMENT OF LEPROSY.

Especial attention is invited to that portion of the report of Dr. H. B. Wilkinson, physician in charge of the San Lazaro Hospitals, in which the treatment of leprosy by the X-ray is discussed. Two cases of leprosy, the diagnosis of which had been confirmed microscopically by the physician in charge of the San Lazaro Hospitals, and independently by the Bureau of Government Laboratories, were treated by the X-ray for a period of some months, at the end of which time they were again examined by the same observers, but no lepra bacilli could be found. The infiltrations into the tissues and other symptoms of the disease have disappeared almost entirely. Sufficient time has not yet elapsed to arrive at any definite conclusion with regard to the permanency of the apparent cures, and it is not deemed advisable to discuss the matter further until the cases have been under observation for a greater length of time. However, if this treatment should prove successful, its far-reaching consequences can scarcely be appreciated as yet.

INSANE.

The question of providing for the insane is becoming more pressing all the time, and the present accommodations are entirely inadequate to meet the demands. The construction of a large, modern, insane hospital should receive early consideration.

TYPHOID FEVER.

During the past few months so many cases of typhoid fever have been reported that it was deemed advisable to make a special investigation in order to ascertain whether the disease is actually present to the extent which the reports indicated. During June some sixty cases were reported from the Ermita and Malate districts. Accordingly, from every case reported for the six weeks commencing July 1, a specimen of blood was obtained and sent to the Laboratory for the purpose of having a Widal reaction made. That the early reports were erroneous appears probable, because only four cases could be found in which the diagnosis was confirmed.

DYSENTERY.

Dysentery still remains the most serious and common disease to which the white man is subjected by residence in the Philippines. With a view to ascertaining whether this disease is not at times contracted in public places, samples of water were collected June 22 from hotels, clubs, Government offices, schools, police stations, bottling works, and restaurants, a total of 61 being secured. Of this number, 17 were found to contain amœbæ. Among other places so infected was the storage tank of one of the establishments at which the water is distilled. Measures were at once taken to correct this condition of affairs, and subsequent examinations have shown a marked improvement.

CAVITE PROVINCE.

Probably one of the most satisfactory results accomplished by the Board of Health during the year was the eradication of smallpox from that province. The disease has been present there for a great many years, and has been one of the most prolific sources from which smallpox cases in Manila were recruited.

BUBONIC PLAGUE.

From the statistical tables it will be observed that the number of cases of plague has been almost one-half of that reported for the previous year. This decline in the number of cases is in all probability due to the great improvement which has been brought about in the sanitary condition of the houses.

MEDICAL EDUCATION.

The question of medical education is one which directly concerns the Insular Board of Health, not only on account of the intimate relation of medicine to sanitation, but also because in Act No. 310, regulating the practice of medicine and surgery in the Philippine Islands, the Commission has constituted the aforesaid organization the sole judge of the reputableness of medical schools so far as their recognition by the Board of Medical Examiners for the Philippine Islands is concerned.

The scarcity of native physicians in the provinces has been a source of embarrassment and hindrance to the health authorities in their work; hence the Commissioner of Public Health, as an officer of the Government in his official capacity, and as the president of the Philippine Islands Medical Association, has interested himself in the matter of the organization of a modern school of medicine in Manila, with post-graduate facilities and research laboratories. The preliminary plan of organization has been worked out, and the necessary recommendations and estimates submitted to the legislative body.

The legal aspect of the preliminary organization may be seen from the following bill:

AN ACT INCORPORATING THE MEDICAL SCHOOL OF THE PHILIPPINES AND DEFINING THE MANNER IN WHICH IT SHALL BE CONTROLLED AND CONDUCTED.

By authority of the United States, be it enacted by the Philippine Commission, that:

SECTION 1. There is hereby created, under the general provisions of the "Corporation Law," a public corporation to be known as "The Medical School of the Philippines," for the purpose of giving medical instruction to qualified students, under such conditions as shall be fixed by a board of control upon the recommendation of its faculty.

SEC. 2. Until such time as a Government university shall be established, the governing power of the corporation shall be vested in a body to be known as "The board of control of the Medical School of the Philippines" which shall consist of the Secretary of the Interior, the Secretary of Public Instruction, and one other member of the Philippine Commission to be designated by the Governor-General of the Philippine Islands, and the dean of the faculty.

SEC. 3. The board of control shall have the following powers:

(*a*) To receive endowments and bequests and to provide for their investment and disbursements according to the conditions of donor or legatee.

(*b*) To receive and appropriate for the ends specified by law such sums as may be provided for the support of the school by legislation of the Philippine Commission.

(*c*) To nominate to the Governor-General, for appointment, the faculty of the school and fix the duties and responsibilities of its members, who shall make regulations with reference to courses of instruction, admission of students, standards for graduation, discipline, and the internal management of the institution.

(*d*) To confer the degree of doctor of medicine upon such persons as are recommended by the faculty.

(*e*) To make to the Commission recommendation in regard to the condition of the school and to present estimates for appropriation necessary for its maintenance.

SEC. 4. The faculty shall have the following powers:

(*a*) To recommend to the board of control, for nomination to the Governor-General of the Philippine Islands, the establishment of and appointment to all professorships to be created or filled subsequent to the appointment of the original faculty.

(*b*) To establish instructionships, lectureships, and other tutorial positions and to fill such positions by appointment or engagement.

(*c*) To make recommendations to the board of control on matters pertaining to the conduct and management of the school; to present an annual report on the work of the school for the year ending June thirtieth of each year, and to present to the board of control estimates for appropriation necessary for the maintenance of the school.

(*d*) To elect a dean who shall represent the faculty of the school and shall be its executive head, and to elect a secretary who shall hold office for three years.

SEC. 5. All disbursements set aside by the board of control for the conduct of the school shall be approved by the dean and shall be audited by the Insular Auditor and disbursed and accounted for in the same manner as other Government funds. The disbursements of the school shall be made by a public disbursing officer to be designated by the Governor-General of the Philippine Islands.

SEC. 6. Upon request of the board of control, heads of Bureaus and Offices of the Insular Government are authorized to furnish apparatus and supplies as may be required and to detail employees for duty in the Medical School, and employees so designated shall perform these services and the time so employed shall count as part of their prescribed service to the Government.

SEC. 7. The public good requiring the speedy enactment of this bill, the passage of the same is hereby expedited in accordance with section two of "An Act prescribing the order of procedure by the Commission in the enactment of laws," passed September twenty-sixth, nineteen hundred.

SEC. 8. This Act shall take effect on its passage.

Enacted ....

NEW LEGISLATION.

The following proposed acts have been prepared and forwarded to the Commission for consideration since April 1, 1905:

An act abolishing provincial boards of health, and substituting therefor district health officers, and repealing Act Numbered Three hundred and seven, entitled "An Act providing for the establishment of provincial boards of health and fixing their powers and duties," and providing that all the duties heretofore performed by presidents of provincial boards of health and by provincial boards of health shall devolve upon district health officers.

An act regulating the establishment and maintenance of burial grounds and cemeteries, and governing public funerals and the disposal of the dead in the Philippine Islands, outside the city of Manila.

The proposed Sanitary Code for the city of Manila was returned to the Board of Health for reconsideration. This work is now in progress.

The following acts which affect the Board of Health were passed during the year: Nos. 1225, 1248, 1340, 1342, and 1361. The above were all appropriation acts, with the exception of Act No. 1340, which imposed additional duties upon the Board of Health, and is entitled "An act authorizing the Board of Health for the Philippine Islands to promulgate quarantine regulations for the government of vessels engaged in the coastwise trade of the Philippine Islands."

THE MANILA WATER SUPPLY.

It is of course known to the undersigned that steps have been taken to collect the water for the city of Manila, some time in the future, from an uninhabited watershed located further up the Mariquina Valley, but the experience with the cholera of the past few weeks has again forcibly recalled to our minds the grave menace that continually confronts the city of Manila. If the dejecta of one cholera patient should be deposited in the stream near the present intake of the city water supply, it would probably mean that hundreds, and perhaps thousand, of lives might be sacrificed. Another danger, equally important, is the fact that an epidemic of typhoid fever may ensue as the results of the present condition of affairs. This latter disease is now rare in the Philippines, and every effort should be made to prevent it gaining a firm foothold.

In view of the foregoing, and the many other water-borne diseases that may be contracted, it is strongly urged that the contemplated removal of the watershed be vigorously pushed, and completed at the earliest possible moment.

THE TREATMENT OF WATER SUPPLIES BY COPPER SULPHATE.

Since the publication of Bulletin No. 64, by the United States Department of Agriculture, Bureau of Plant Industry, of "A Method of Destroying or Preventing the Growth of Algæ and Certain Pathogenic Bacteria in Water Supplies," by George T. Moore, physiologist and algologist in charge of laboratory of plant physiology, and Karl F. Kellerman, assistant in physiology, the subject has attracted much attention, especially in the medical journals. In view of the favorable reports that were made and the importance of the matter to the city of Manila, it was decided to test the method upon the local water supply.

A sufficient amount of copper sulphate was added to the water at El Deposito to make a solution of 1 to 4,000,000 of the entire city supply. This experiment was carried on for a period of eight weeks. Samples of water were taken once a week at three different sections of the city, and were regularly examined at the Bureau of Government Laboratories.

The results, so far as amœbæ were concerned, were not at all encouraging. Amœbæ were found in the water before copper sulphate was introduced, and in all the water which was examined subsequently they were found present every time, with one exception, and in that instance the amœbæ were present in two out of the three samples that were taken on the same day. In the laboratory the experiment was carried still further, by making a solution of copper sulphate 1 to 100,000, and after a period of three days amœbæ were found in the water, apparently just as numerous as in the control. Thus it will be seen that whatever other value copper sulphate may possess, it is practically of no service in the destruction of amœbæ. There seems, however, to have been a reduction in the number of bacteria. At the beginning of the experiment samples of water taken at three different sections of the city showed 240, 150, and 180 bacteria per cubic centimeter, respectively, while toward the close of the experiment the figures were 120, 60, and 65, respectively. In other words, of the 27 becteriological examinations made subsequent to the first one, in 21 the bacteria were found to number less than 100 per cubic centimeter, and in the remaining 6 they never reached above 140. By contrasting this latter number with the 240 originally found, it will be seen that a marked reduction has taken place.

Very respectfully,

VICTOR G. HEISER,
Passed Assistant Surgeon,
United States Public Health and Marine-Hospital Service,
Commissioner of Public Health.

The GOVERNOR-GENERAL, *Manila, P. I.*
(Through the Secretary of the Interior.)

PART II.

REPORT OF THE BOARD OF HEALTH.

By EDWARD C. CARTER, *major and surgeon, U. S. A., late Commissioner of Public Health.*

[September 1, 1904, to March 31, 1905.]

DEPARTMENT OF THE INTERIOR,
BOARD OF HEALTH FOR THE PHILIPPINE ISLANDS,
OFFICE OF THE COMMISSIONER,
Manila, P. I., April 29, 1905.

SIR: I have the honor to submit a report of the Board of Health for the Philippine Islands and the city of Manila, for the period of seven months beginning September 1, 1904, and ending March 31, 1905, the latest possible date to which the statistics could be conveniently carried and be ready for inspection before my departure. The work of the remaining five months will be included in the regular annual report, which will be submitted at the required time by my successor.

With the rendition of this final report, my official duties as Commissioner of Public Health for the Philippine Islands cease. The record of my services is written and must stand without change. The three years during which I have held the office of Commissioner of Public Health have been critical ones in the history of American occupation, but I believe that I can truly say that the organization over which I have had the honor to preside emerges from the trying conditions of this period with the power and strength of increased knowledge and usefulness.

There have been trials, tragic and ludicrous; disappointments, keen and humiliating, and failures, complete and heart-breaking. These have not been without their valuable lessons.

If the scientific aspect alone of the work and purposes was to be considered, justice could not be done to the devoted men who have given of their best—and an excellent best it was—to sustain the health authorities in their endeavors to meet emergencies, and to pursue the golden mean, albeit a compromise, between the right and the expedient. It is not to be denied that this so-called mean has been nearer to the expedient than to the scientific right; and that which has been accomplished has been brought about along the lines of least resistance rather than along the lines of scientific accuracy. For it has been demonstrated here, as elsewhere, that state medicine or prophylactic sanitation must be largely influenced by the habits, the customs, the attributes, and by all that goes to constitute the genius of the people whose condition it is desired to improve; and a campaign which is aimed at the extinction of an epidemic, or at the betterment of insanitary local conditions, is doomed to failure if it does not take into consideration the susceptibilities as well as the needs of the population.

Now, a knowledge of the sentiments of a strange people, which underlie the susceptibilities, may not be obtained from books, or indeed by observation alone, and, through lack of that knowledge, I have sometimes found myself in perplexing situations, out of which the best method of escape was difficult to determine.

An effort has always been made to secure the coöperation of the medical faculty of these Islands, in any measure that seemed radical, and if success has not always crowned the effort, may it not be due to the lack of persuasiveness of the sanitary authorities, as well as to other causes? Time alone can give an answer to this question.

It was, of course, the purpose of the Board of Health to arrange a plan of action, clear, definite, and logical; to lay out its line of operation, and to follow as near to that line as possible. Then by experience, it was hoped, would be found a simple and comprehensive method whereby public good could be accomplished, little friction produced, and the people themselves gradually persuaded, led, and finally attracted toward the good. Moreover, if the history of the Teutonic people, and of the Latins, too, teaches anything, it teaches that laws and the systems of life are a growth and a development, and do not spring admirable and complete—from the brain of some genious, as Athene sprang from the forehead of Zeus.

Perhaps one of the most perfect types of sanitation the world has ever seen was the Roman camp, with its walls, its moats, its orders, its drainage, its latrines, and its perfect cleanliness.

The effect of epidemics and of violation of sanitary laws, the laws of nature, not of man, but which must be understood and interpreted by man, have been more disastrous upon nations and peoples than wars or any other calamity.

The plague in Athens destroyed Greek culture and civilization as much as did the Peloponnesian war, or the loss of the Athenian fleet before Syracuse.

The unsanitary condition of the Roman Campania broke the power of Rome as much as did the Goths and Huns. The pernicious malarial fevers and dysenteries, due indirectly and directly to the choked canals and undrained lands in Mesopotamia, have converted the most fertile region of the world into a wilderness; the glorious gardens into squalor; the vigorous inhabitants into filthy nomads; Babylon into a cesspool.

Is it not true that a nation's worth may be gauged by its sanitation; that a people's efficiency may be measured by its life hygiene; its doom be predicted from its dirt, and its destruction presaged from its filthiness? History proves it by. methods as clear, logical, and convincing as those employed in geometry, and science demonstrates it with mathematical precision. But science does more than that, it explains why the fact is as it is; and, better still, it points out a way to remedy the evil. Much is known now in regard to sanitation not dreamed of twenty-five years ago; and ten years hence much more will be known.

History warns the nations that science may save them, but for those who are deaf alike to the warnings of history and to the teachings of science, it may be said:

> Their doom is upon them;
> They that are filthy,
> Let them be filthy still.

Their decadence may be slow—it is certain; their worth may gradually decrease—it will vanish; their effectiveness disappears, the long night of obscurity falls upon them; their glory is departed; they are dead.

With a full consciousness of the facts and of all they mean for the future of these people, can it be wondered at that the health authorities have been at times overzealous, overstrenuous? It is not true that men were ever pursued on the streets of Manila and captured, vanquished, and vaccinated; but it is true that the strong arm of the law is ever behind the Bureau of Health to give it the necessary aid.

FORMER BOARDS OF HEALTH.

A board of health existed in Manila under the Spanish régime, and gave counsel to the Government. Members of the board went to places infected with epidemic diseases, studied their etiology, prescribed rules and regulations, rendered reports, etc.

A board of health was established by the military authorities, and the sanitary orders of the provost-marshal are about the best health regulations known to the writer. They are comprehensive, clear, practical, and definite. In the period of reaction against militarism, many of these orders have been changed, not usually bettered. It is hoped that these will be rechanged, so as to swing back to the original position, with the additional force which will have been added by a phraseology somewhat better suited to the legal point of view. But, on the whole, the writer believes, after an experience of three years, that the sanitary orders of the provost-marshal constitute the best working formulæ for health legislation with which he is acquainted. Their weakness is not in their sanitary but in their legal aspect.

ORGANIZATION.

The Bureau of Health is subdivided into eleven divisions:

1. Division of inspection, disinfection, and transportation, under the charge of the chief health inspector.
2. Disbursing division, under the charge of the disbursing officer.
3. Division of statistics and reports, under the charge of the secretary of the Board of Health.
4. Sanitary engineering division, under the charge of the sanitary engineer.
5. Clerical division, in charge of the chief clerk.
6. Property division, in charge of the property clerk.
7. Vaccination division, under the officer in charge, who is at present the chief health inspector.
8. The division of hospitals, under the supervision of the chief health inspector, but directly under the physicians in charge of the respective hospitals.
9. The leper colony division, under the charge of the director.
10. Veterinary division, under the charge of the chief veterinarian.
11. The provincial health division, under the direct charge of the Commissioner of Public Health

Division chiefs deal directly with the Commissioner of Public Health. All records, except hospital records, are kept in the record office of the clerical division.

Papers pertaining to these divisions pass directly from the chief clerk to the head of the proper division, who lays them before the Commissioner of Public Health, with his comments.

DIVISION OF INSPECTION, DISINFECTION AND TRANSPORTATION.

This division is under the charge of Dr. Thomas R. Marshall, and is one of the most important of the divisions into which the Bureau of Health is subdivided.

Not only has the city of Manila been divided into health districts, but the Philippine Islands have also been similarly divided, and as each division of the city has its medical inspector, sanitary inspector, and assistant sanitary inspectors, and sanitary police, so the health districts of the Islands have each a medical inspector assigned to inspect each district, investigate the sanitary conditions, and report upon them, and upon the efficiency of the sanitary or health organizations therein.

It is believed that these reports which are appended hereto, and the similar reports of the medical inspectors which are to be found in the report of the Bureau of Health for the year ending the 31st of August, 1904, will give a fairly correct idea of the sanitary conditions prevailing in the provinces and small towns; and it is hoped that the information thus made available may be of use in considering contracts for public works in the provinces.

The general impression derived from a perusal of these provincial reports is not favorable to the continuance of the provincial sanitary arrangement now in force. It has been found advisable to have the medical inspectors perform certain duties which were originally laid upon the provincial health authorities. Medical inspectors also have been detailed to take charge of the vaccinating companies which have been sent out into five different provinces, for so much difficulty was experienced in securing satisfactory results, proper reports, and correct vouchers that it became necessary to place a man in charge of each vaccination company who was competent to do the work.

Two medical inspectors are detailed as acting presidents of provincial boards of health. These men are also in charge of the vaccination companies in their provinces.

One medical inspector is detailed at San Lazaro Hospitals, and another in the Sampaloc Hospital.

The 18 medical inspectors authorized by law are employed as follows: Four are engaged in the inspection of the city of Manila; 1 is employed in connection with the Sampaloc Hospital; 1 is in charge of the San Lazaro Hospitals; 1 is on duty with prisoners en route to Zamboanga; 4 are on inspecting tours in the provinces; 2 are acting presidents of provincial boards of health; 5 are with vaccination companies in the provinces. It will thus be seen that 12 are engaged in work outside of the city of Manila.

DISBURSING DIVISION.

This division for some time has been under the charge of Mr. Miller Joblin, who, with two assistants, is discharging all the duties connected with it, in a perfectly satisfactory manner. While vouchers and accounts are carefully viséed, no unnecessary delay ever results.

The disbursing officer at present is also cashier for the Bureau of Health.

During the seven months included in this report, the receipts of this Bureau from all sources were as follows:

Burial division	₱9,373.10
Veterinary division	8,173.40
San Lazaro Hospitals	30.00
Sale of property	37.00
Total	17,613.50

The report of the disbursing officer and cashier showing also the expenditures of the Bureau is appended as a part of this report.

DIVISION OF STATISTICS AND REPORTS.

This important division is under the charge of Dr. Manuel Gomez, the secretary of the Board of Health. Upon this division rests the responsibility for preparing the monthly reports of the Bureau; the preparation and issuing of all birth, burial, and exhumation certificates and permits in the city of Manila.

A record of marriages will also be kept by this division in the near future. Forms for this purpose are now ready for distribution.

DIVISION OF SANITARY ENGINEERING.

This division is under the charge of Mr. J. D. Fauntleroy, who was transferred to this Bureau from the Bureau of Engineering in December, 1904. This division has charge of all the work in the city of Manila, under the jurisdiction of the Bureau of Health, which involves matters connected with the construction, alteration, and modification of houses buildings, latrines, cesspools, and other sanitary arrangements. It further exercises a supervision over the changes, repairs, and sanitary improvements recommended by the medical inspectors.

This division also has direct control, under the Commissioner of Public Health, of the filling in of low ground, problems of drainage, and the approval or disapproval of building plans, which are sent to it from the office of the city engineer.

In addition to the work of this nature in the city of Manila, the division, of sanitary engineering is also called upon at times to investigate engineering problems at various points in the provinces. It also prepares maps and plans for any work of construction performed directly by the Bureau of Health, such as the construction of the leper colony at Culion.

At present this division is undermanned, and it is only by the most strenuous endeavor that its chief can keep abreast of the work devolving upon him.

The detailed work of the division is fully covered in the report of the sanitary engineer.

CLERICAL DIVISION.

Mr. Volney Eaton, the chief clerk, is in charge of this division. The work of this division is the usual work of the clerical division of any organized bureau. All records are kept and filed, and the card system is in use. It should be noted, however, that certain records pertaining to the various hospitals under the control of the Bureau of Health are kept at those hospitals. Attention will be called to this in its proper place.

The work of this division is onerous, as many communications come in from the provinces, all of which pass over the desk of the chief clerk. The work has been satifactorily done, though at times the division has been somewhat crippled by lack of clerical force.

PROPERTY DIVISION.

The property division of the Bureau of Health is in the charge of the property clerk, who, as well as the disbursing officer, is a bonded officer. The property on hand at present is valued at somewhat over $50,000, United States currency. It is stored mainly in the storerooms in the Santa Potenciana building, but the rooms in the building formerly used as the public mint will be placed at the service of this division shortly.

The propertly clerk is accountable for all property. He makes the usual returns, prepares requisitions, purchases certain supplies (medicines and medical necessities), from merchants in Manila. He fills all requisitions which come in from employees of the Bureau of Health, in the city and in the provinces, and attends to the shipping of all property. In other words, he acts as purchasing clerk, shipping clerk, and property clerk. The card system is in use in this division.

The work is properly done, and no delay is experienced in filling or preparing requisitions. As the demands for medicines and medical supplies for indigent natives come from all over the Islands, the duties of this official as shipping clerk occupy a considerable portion of his time.

DIVISION OF VACCINATION.

The division of vaccination, which is under the charge of Dr. Thomas R. Marshall, chief health inspector, was organized during the fiscal year 1905. Its personnel consists of 100 provincial vaccinators and 10 vaccinators for the city of Manila, including the chief vaccinator.

As smallpox is both endemic and pandemic in these Islands, the necessity for a vaccination division is very great. The original plan of the Board of Health was to organize a corps of vaccinators of 350 individuals. That number was considered necessary in order to vaccinate the inhabitants of these Islands within three years. Owing to the depleted condition of the Insular Treasury, the Commission was not able to see its way to authorize the employment of so large a number. It therefore devolved upon the Bureau of Health to utilize the vaccinators authorized to the best advantage.

At first it was thought that detachments of vaccinators might be sent to those provinces in which smallpox was most prevalent. These companies were directed to report to the presidents of the provincial boards of health, who assumed charge and proceeded to vaccinate the provinces. In a short time, however, it was found that little work was accomplished under the supervision of the presidents of provincial boards of health; that frequent complaints reached the central office, to the effect that vaccinators were contracting bills among the inhabitants of the provinces, and declining to pay them; and that the vouchers sent in to the central office were not so prepared that they could pass a reasonably strict scrutiny, either in the Bureau of Health or in the Auditor's office. It was therefore decided to send out with each company of vaccinators a medical inspector and a sanitary inspector, who should supervise the work and conduct of the vaccinators, and scrutinize the vouchers more closely. It has been found that much more work has been accomplished by this method than by the former, and that the accounts are more reasonable, clear, and accurate. It will be seen, however, that the medical inspectors, who are paid by the central office, and who are with the vaccinating companies, are performing work properly belonging to the presidents of the provincial boards of health. In other words, the Insular Government is called upon to pay for work which should be paid for by the provinces. The significance of this fact will be pointed out later.

Owing to the necessity for a reduction in expenses, it was found advisable to reduce the number of provincial vaccinators on the 31st of March, 1905, from 100, to 75. This necessity has been a matter of grave concern to the health authorities, because the prevalence of smallpox is great, the mortality is high, and the resulting blindness and deformities are frequent.

Smallpox in the Philippines occupied about the same position in regard to its frequency, its mortality, and its prevalence that it did in Europe prior to the discovery of vaccination, and as was the case in Europe, so in the Philippines, it seems to be almost a disease of childhood. The explanation of this is that all natives who have reached adult age were exposed in their childhood to smallpox, and those who did not contract it may be considered immune.

Possibly no one but the physicians brought into daily contact with the natives can realize the gravity of the smallpox situation. The good results obtained by vaccination in Manila, which will be shown by statistics, lead me to hope that equally good results may be obtained in the provinces.

From the report of the chief health inspector it will be seen that a very large number of persons in the provinces, as well as in the city of Manila, has been vaccinated. Small pox in Manila is no longer to be feared, and not so many cases occur in proportion to its inhabitants as in the cities of Washington, Baltimore, Barcelona, and several others.

The disease seems singularly fatal to Americans, the percentage of mortality among them being at least twice what it is among the natives; but in every case where an American has contracted the disease it has been proven that vaccination had never been successfully practiced, or at least not within many years.

A law existed during the Spanish régime making vaccination compulsory, but the chief good which resulted from that law was that the people became accustomed to its existence on the statute book, and did not greatly object to it or strenuously resist its application at the hands of the Americans. In a few provinces difficulties were met. In these cases the vaccinators were at once withdrawn, and the pueblos left to themselves, and within six months the contrast between the vaccinated and the unvaccinated pueblos was so marked that the chief men of the objecting municipalities requested the vaccinators to return.

The vaccine virus furnished by the serum institute has been, in the main, good but great difficulty was experienced in preserving it when sent to the provinces. It was found necessary to construct special ice boxes, in which the vaccine virus was placed, in a small, opaque receptacle. The boxes are locked, and shipped by boat to the medical inspector in charge of the vaccination company, who has in his possession a duplicate key. These boxes are of such a nature that they can be transported in bancas or in carromatas throughout the provinces, and the ice in them usually lasts ten days or two weeks.

As soon as the vaccine virus in one of these boxes is used up by the vaccination company, the empty box is locked and returned at the first opportunity to the central Board of Health. In the meantime telegraphic information is sent to the central Board of Health that more vaccine virus is needed, and that the empty box is en route; so that there is a continuous stream of boxes with virus going out from the central office and empty boxes returning to the central office from the field. This system has been fairly efficacious, a large percentage of "takes" has been observed, and so far no single case of any grave infection has been reported.

It was found necessary to instruct all the vaccinators in the technique of their work, and it was only after they had learned how to apply strict antisepsis that they were allowed to proceed to the provinces and vaccinate. This preparation required time, but the good results obtained by it more than compensate for the disadvantages attending it. Had circumstances been such that the number of vaccinators asked for, namely, 310, could have been authorized, the work of vaccination would now be half through at least, but with the small number which the Bureau of Health has available, the question arises whether vaccination will not have to be practiced continuously for many years, in order to immunize the 6,000,000 inhabitants who are now in these Islands, and their offspring as it arrives. I desire to call particular attention to the gravity of the situation.

It is not an unfortunate coincidence that smallpox prevails most during the dry season, at which time the transportation of the vaccinating companies is most feasible.

The records of the Bureau of Health show that over 213,000 persons have been vaccinated by the Board of Health in Manila within the past twelve months, and many more by private physicians. When we recall that Manila's population is not more than 220,000, we can understand why, in the year ending the 31st of December, 1904, there were just 27 deaths from smallpox. Ten of the 27 were Europeans or Americans who had neglected or avoided vaccination, a number out of proportion to the number of whites as compared with the number of natives, and a hopeful conclusion may be drawn from this. The law making vaccination compulsory which existed during the Spanish régime, was reënacted by the American authorities, and as the people have become accustomed to it, they have ceased to fear or distrust it. The change may be remarked from year to year, and at present the difficulty is not to get the people to be vaccinated, but to get the vaccinators. It is also not to be denied that many of the vaccinators create a difficulty of their own.

The credit for the systematic methods of this division is due to Capt. E. L. Munson, Medical Corps, United States Army, whose elaborated scheme is published in full in my report for last year, and to Dr. Thomas R. Marshall, chief health inspector for the Philippine Islands. The latter has had control of the system, and has modified and altered it as circumstances required, so that the vaccination division of the Bureau of Health has developed into its most important part, and has demonstrated, if demonstration were needed, that good methods are developed rather than made to order.

There have been vaccinated in the provinces during the fiscal year ending June 30, 1904, 1,007,204 persons; and in the city of Manila for the calendar year ending December 31, 1904, 213,492 persons.

The completed work done by this division may be best understood from the statistical report which is prepared by the chief health inspector, and which constitutes a valuable part of this report.

DIVISION OF HOSPITALS.

The division of hospitals consists of two separate establishments:

(*a*) The San Lazaro Hospitals, which consist of: (1) The leper hospital, for 250 patients; (2) The contagious-disease hospital, which may contain from 100 to 150 patients; (3) The hospital for the insane, which will accommodate 90 to 100 patients.

(*b*) The Sampaloc Hospital.

At the San Lazaro Hospitals are the morgue and crematory, which are under the control of the Bureau of Health.

The post-mortem tables at the morgue have been properly adjusted, and a refrigerator has been built for the preservation of bodies held at the morgue.

1 Plans and estimates for the construction of a house for the physician in charge and for a nurses home have been submitted. It is hoped their construction will be authorized, for at present the physician in charge is living a board house with a nipa roof, consisting practically of two rooms. The nurses live in the administration building of the contagious-disease hospital, in the rooms that were intended for the assistant physicians, and for administration purposes. Their quarters are cramped and are not comfortable.

It seems desirable that from one to three more wards be added to the contagious-disease hospital. There wards may be built for about $4,000, United States currency, each. They would contain thirty or more beds, and might be used for the scientific treatment of malarial cases, tubercular cases, and cases of other infectious or contagious diseases, such as yaws, measles, tetanus, diphtheria, etc.

If the nurses' home be built, there will then be room in the administration building of the contagious-disease hospital for the assistant physicians, who are needed at that hospital and at the insane hospital and leper hospital, near by.

The house of the physician in charge of these various hospitals should be a decent structure, commodious and convenient.

2. While it is purposed to collect the lepers in these Islands at various points on the Island of Culion, in the Province of Paragua, it must be borne in mind that the process of collection will require time, and that the leper hospitals now in use at San Lazaro and Cebú may be used as places at which lepers are to be collected prior to sending them to the colony at Culion. Therefore it is necessary to make provision for the continuance of these hospitals and the maintenance of the patients therein. Moreover, it is a question of doubtful expediency to send lepers who need hospital treatment to Culion at present.

A number of repairs are needed in the leper hospital at San Lazaro; for example, the roof should be repaired at an early date, as there is risk, in my opinion, of the roofs falling in and crushing the inmates. However, the Bureau of Architecture will take charge of whatever repairs are deemed necessary.

While the stone walls of the building now occupied by the lepers may be disinfected with sufficient throughness to warrant their use as a part of the future insane asylum, certainly all woodwork, flooring, doors, beams, roofing, etc., should be removed and destroyed by fire before the building could be used for any purpose except that for which it is now used.

If the plans designed by the physician in charge can be carried out, it is believed that the San Lazaro Insane Asylum may be made a creditable institution, and one wherein the study of mental diseases may be carried on with profit and success.

The leper hospital at Cebu consists of two large nipa buildings and an old building of hard material. It was expected that this hospital would accomodate 300 patients, and provisions were made accordingly. The superintendent, however, has collected over 400 lepers, who are maintained on the appropriation originally designed for the smaller number. No guards are in use at Cebu, though some are necessary. The order and discipline which are maintained at the Cebu Leper Hospital reflect great credit on its superintendent, Father Filomeno Flores.

The Leper hospital at Palestina was abandoned in December, 1904, and its inmates sent to the San Lazaro Hospitals in Manila.

3. The women were removed from the San Lazaro Hospitals, and that part of the building which they occupied was converted into an insane asylum in December, 1904. Plans for the enlargement of the insane department of the San Lazaro Hospitals have been submitted, along with proper estimates. These plans are on the pavilion system, and contemplate the establishment of a hospital of approximately 900 or 1,000 beds, but before this insane hospital is completed to its full capacity, in accordance with the plans above mentioned, all lepers at San Lazaro should be removed to Culion or some other place.

It is understood that arrangements are being made to remove the cattle belonging to the serum institute from the San Lazaro grounds. This is most desirable, as these grounds might then be filled in and placed in proper sanitary condition. Under the present conditions mosquitoes abound, and the places occupied by the cattle are insanitary and unpleasant to sight and to smell.

The absence in the United States of the physician in charge of San Lazaro Hospitals has delayed a report of the cases of leprosy in that institution, and their histories, so far as obtainable.

Microscopical examinations have confirmed the diagnoses in practically all cases, and medical and local treatment has been tried. The use of leprolin, a serum of Dr. Rost, of the British Indian service, has been begun. Dr. Rost kindly sent to the Bureau of Health some serum. It is the hope of the Bureau to secure more, in order to give this promising method of treatment a thorough trial.

The use of the modified "Crook's tubes" has been attended with some benefit, as several of the cases have improved markedly under the influence of the rays.

It is expected that a detailed report of the results of the various methods of treatment will be rendered at some future date by the physician in charge of the San Lazaro Hospitals.

SAMPALOC HOSPITAL.

The Sampaloc Hospital for the treatment of certain diseases in women was formally opened in the residence portion of the building at No. 4 Calle Alejandro VI, corner of Calle Alix, in the district of Sampaloc, December 10, 1904, just one month from the date of the passage of a resolution by the Philippine Commission authorizing the removal of this class of patients from the San Lazaro Hospitals in order that a ward for insane patients might be established.

The text of the resolution authorizing the transfer is as follows:

> *Be it resolved,* That the Commissioner of Public Health be, and he is hereby, authorized to establish and maintain an insane department in lieu of the women's department at the San Lazaro Hospitals, Manila, all necessary expenses except compensation for services to be payable from funds appropriated for support of hospitals, plans, and stations, Bureau of Health, nineteen hundred and five; and to employ two attendants, Class A, in addition to the employees authorized by

Act Numbered Twelve hundred and twenty-five for the San Lazaro Hospitals, payment therefor to be made from the appropriation for salaries and wages, Bureau of Health, nineteen hundred and five; and

***Be it further resolved*, That the women's department of the San Lazaro Hospitals be removed from its present location to a building to be selected and rented for the purpose by the Commissioner of Public Health, and equipped with the necessary kitchen, dining room and other furniture, bedding, and medical and other supplies, the expense of such equipment not to exceed four thousand pesos, payment therefor, for the subsistence of employees and patients, and for the rent of said building to be made from the appropriation for support of hospitals, plants and stations, Bureau of Health, nineteen hundred and five; and the Commissioner of Public Health is hereby authorized to employ the following personnel, as may be necessary for the operation of the department, at the respective monthly rates of compensation specified, with subsistence and quarters under the provisions of Act Numbered One thousand and ten: One physician in charge, who shall be a medical inspector of the Bureau of Health, detailed for such duty, one trained nurse at one hundred pesos, one cook and steward at one hundred and fifty pesos, one matron at forty pesos, one nurse at forty pesos, two nurses at twenty pesos each, three employees at twenty pesos each, three employees at fifteen pesos each, payment therefor to be made from the appropriation for salaries and wages, Bureau of Health, nineteen hundred and five; and the committee on appropriation is hereby directed to make proper provision in the next appropriation bill confirming this action.**

The capacity of the institution is placed at 70 patients, but on the 31st day of March there were 73 patients in the hospital. The daily average since removal from San Lazaro has been about 60 patients. The average cost of subsistence is approximately 25 cents, Philippine currency, a day for each patient.

THE LEPER COLONY DIVISION.

As stated in a former report, it has been the intention of the Commission to establish a colony to which may be sent the lepers from various places in this Archipelago. In April, 1904, steps were taken to purchase the ground and houses of the village of Culion, in the Island of Culion. This, of course, involved a considerable loss of time, as the proceedings were slow, and some of the property holders were averse to quick sales. The place has been purchased, however, satisfactory title secured, all old houses repaired, many new ones built, roads constructed, double fences of barbed wire placed between the village and the mainland, and the church put in habitable condition. Through the charity of a lady in New York, a cross and bell were secured for the church. The buildings now completed at Culion would accommodate 600 lepers comfortably, and enough buildings might be added to practically double this number.

Difficulty was experienced in securing material, as most of it had to come from Manila, which is about twenty-eight hours distant from Culion. Ordinary communication between the two places occurs not oftener than twice a month, a cutter of the Coast Guard making the trip.

The original sum of money set aside by the Commission in previous years, and carried through as a permanent appropriation, was $50,000, United States currency. Of that, over $6,000 was used in the endeavor to establish a colony at the Cogonal Grande, leaving between $43,000 and $44.000 available when the present colony was begun. On the 16th of January, 1905, it became necessary to notify the Secretary of the Interior by letter that not to exceed $5,000 United States currency, of this appropriation would be left available on the 1st of February, 1905, and it was found that this sum was practically exhausted by the end of April. With the consent of the Secretary of the Interior, an arrangement was made whereby a sum slightly exceeding ₱13,000 Philippine currency, might be made available from the appropriation of the Bureau of Health for the "Suppression and extermination of diseases and pests."

The director of the Culion leper colony, Dr. C. F. de Mey, has been untiring in his efforts to push the construction to a successful close.

It is believed that it is advisable to separate the sexes. Scientifically speaking, the proposition is correct, but separation may lead to distress and complaint.

It is purposed to establish waterworks, kitchens, and a bakery. The nonleprous personnel will reside at a place about 2 miles distant from Culion, and separated therefrom by water. One or perhaps two priests will reside near the colony, to administer spiritual consolation.

There will also be a hospital, schools, etc.

VETERINARY DIVISION.

The veterinary division is mainly engaged at present in the prophylactic inoculation of carabaos and cattle against rinderpest.

In this division there are provided places for 15 veterinarians, one of whom is chief; 30 inoculators at $900 United States currency, per annum, and 15 inoculators at $300 United States currency, per annum. Only such of these places are filled as seem necessary.

In order to avoid excessive traveling expenses, veterinarians and inoculators have been stationed at various points in the Islands, each unit consisting of 1 veterinarian, 2 inoculators of the higher and 1 of the lower class. Each unit is supposed to control several provinces, which form a district. The plan has not yet been in practice long enough to determine its usefulness.

Surra and glanders among horses, rinderpest and contagious septicæmia, foot-and-mouth diseases among cattle have kept this division fully occupied heretofore. It is believed that the results of the work of this division are being felt; certainly there seems to be a diminution in the number of cases of both rinderpest and surra.

It is not believed, however, that surra may be eradicated until some method is devised whereby the neat cattle suffering with this disease may be destroyed. As these cattle do not seem to suffer inconvenience from this disease and are quite able, as a rule, to perform their usual work, it would be a hardship to destroy them, without compensation to their owners, but to pay this compensation would be very expensive, and the state of the Insular Treasury at present hardly warrants it.

A set of simple and brief rules were drawn up for the guidance of the veterinarians and inoculators in their work, and are submitted with this report.

The importation of cattle from China by the Government ceased about December, 1904.

At first it was necessary to proceed slowly with antirinderpest inoculations. The owners of cattle were suspicious and distrustful. Results were not altogether satisfactory, and when inoculated cattle died, claims were made against the Government. It is unfortunately true that a few members of the veterinary corps were not always as considerate of the sentiments and prejudices of cattle owners as they might have been.

Nevertheless success has outweighed failure, and in most parts of the Islands the veterinarian and his inoculators are in demand as soon as there is any indication of an epizoötic disease.

The supply of serum has not always been adequate to the demand, but, generally speaking, there has been little delay, except that due to difficulty in transportation, in inoculating the herds of those persons who have requested the Bureau to inoculate.

The practices of the veterinary division in the matter of protective inoculations are outlined in the following instructions for the guidance of the members of the veterinary corps of the Bureau of Health in the handling of epidemic surra and rinderpest:

SURRA.

1. All equines positive for surra should be killed, the carcasses protected from flies, and cremated or buried to the depth of 1 meter. Dogs should be kept from the carcasses at least twenty-four hours.

2. All equines in a corral in which surra has appeared, but which are not positive for surra, should be immediately removed, by night if practicable, at least one-half mile. If the animals be removed by day (*a*) sprinkle them with a 20 per cent solution of creolin or sulphonaphthol or Jay's Fluid; (*b*) cover them with a sheet or fly net; (*c*) use brushes to drive away the flies.

STABLES.

1. Stables and corrals should be on high, dry, windswept places.

2. Stables should be kept clean and be disinfected with 5 per cent carbolic acid, tricresol, or creolin, or sulphonaphthol. If possible, the stables should be screened. Surra-infected stables, after having been cleaned and disinfected, should not be occupied for twenty days. All manure and stable refuse should be burned, buried, or removed at least one-half mile from the stables.

3. The equines removed from surra-infected stables or corrals, should be isolated and kept under observation for at least twenty days from the appearance of the last case of surra. If no surra appears in twenty days, it is presumed the animals are free from that disease.

4. All bovines positive for surra should be separated and kept at a distance from all other animals.

In conclusion, attention is invited to paragraph 2 General Orders, No. 103, Headquarters Division of the Philippines, dated the 31st of October, 1903.

RINDERPEST.

1. Infected districts should be kept quarantined for at least thirty days after the disappearance of the last case of rinderpest. The locality is likely to be infected much longer, and no unprotected horned cattle should be taken into such locality for six months.

2. Treatment of animals in an infected herd or locality (i. e., wherein cases of rinderpest exist, or have recently existed):

(*a*) Such animals should be inoculated with serum, 50 cubic centimeters at least, at a dose, and the inoculation repeated as indicated.

(*b*) These animals should be again inoculated about two or three months after the serum inoculation, but this time by the simultaneous method.

(*c*) No animals which are in a noticeably pregnant condition should in any circumstance be inoculated by the simultaneous method.

NONINFECTED HERDS AND DISTRICTS.

Practice inoculation by the simultaneous method.

1. Preferably inoculate not over ten vigorous head at the start, and be guided by the results. If these are favorable, simultaneous inoculation may be more largely practiced, but careful observation of the results must be continuously made, and the inoculation guided thereby; but if unfavorable, the herd is probably infected, and serum inoculation alone must be practiced.

DESTRUCTION OF DISEASED ANIMALS.

In the city of Manila, under special ordinance regulation, the Board of Health has pursued the policy of killing and cremating all domestic animals found to be suffering from an incurable infectious disease, and thoroughly disinfecting the places where they were kept. This same policy has been carried out to some extent in the provinces, but in many instances entire districts have been found in which all the animals were either infected or had been, so that this action seemed scarcely justifiable as a preventive measure. The destruction of perhaps the only animal upon which the family depends for the necessary work of the rice field, even when fully justified scientifically, is not always consistent with the promptings of mercy.

To fully or even partly indemnify the owners of all diseased animals that should in the interest of the public health be destroyed would involve the expenditure of too great a sum of money to be considered at this time. The question has been left to the discretion of the local authorities in the proposed legislation, recommended by the Board of Health in a bill entitled "An act regulating the quarantine and destruction of animals suffering from contagious or infectious diseases," as follows:

SECTION 1. This act shall apply to all of the municipalities of the Philippine Archipelago with the exception of Manila, which shall be governed by the provisions of the Sanitary Code, as provided for in Act Numbered Eleven hundred and fifty.

SEC. 2. It shall be unlawful for any person owning or having in charge any domestic animal suffering with glanders, farcy, surra, or other contagious, infectious, or communicable disease, knowing such nimal to be diseased, to drive it or permit it to be driven upon any street, road, or other public place, or to sell or dispose of such animal.

SEC. 3. Animals which have been in contact with an animal suffering with a dangerous infectious disease, or animals which are believed to have been exposed to the infection of such disease, shall be quarantined for such period as the Commissioner of Public Health, upon the recommedation of the chief of the veterinary division, may prescribe; and the cost and maintenance of such animals during the period of quarantine shall be borne by the owner.

SEC. 4. No person, being the owner or in charge of any horse, mule, carabao, cattle, sheep, goat, swine, or other animals, knowing the same to have an infectious or contagious disease, shall permit such animal or animals to run at large or come in contact with other animals belonging to another person, or with other sound animals which the owner may have in his possession.

SEC. 5. It shall be the duty of every veterinarian, physician, cirujano ministrante, or pharmacist to report in writing or otherwise, to the nearest health officer, or to the person acting as such, every case of glanders, farcy, surra, or other contagious or infectious disease which shall come within his observation.

SEC. 6. It shall be a misdemeanor, punishable as hereinafter provided, for any person to hide, conceal, or give knowingly false information about any animal suffering or thought to be suffering from a contagious, infectious, or communicable disease.

SEC. 7. The bodies of animals that have died of contagious or infectious disease shall be cremated, unless otherwise authorized by the Board of Health or its representatives.

SEC. 8. Any person who is the owner or in charge of any animal that has died of a contagious, infectious, or communicable disease shall notify the president of the municipal board of health if there be one, or, if there be no president of a municipal board of health, he shall notify the secretary of the municipality in which such animal shall have died, within twelve hours after the death of the animal, in order that proper provision may be made for the disinfection of the stable or premises.

SEC. 9. When any stable or place is declared by a representative of the Board of Health to be infected with a communicable disease affecting animals, the removal therefrom of any animal, carcass fodder, litter, utensil, or other thing, without written authority from a veterinarian of the Board of Health, if there be one available, or the president of the municipal board of health, or the municipal secretary, or other person authorized by the Board of Health for the Philippine Islands, is prohibited.

SEC. 10. No domestic animal used for draft, food, or dairy purposes shall be kept in any place in which the water, ventilation, or food is not sufficient or wholesome for the preservation of its health and safe condition.

SEC. 11. The board of Health for the Philippine Islands shall have authority to investigate the health of domestic animals in any part of the Archipelago, and it shall also have full authority to segregate and quarantine animals found to be suffering from contagious, infectious, or communicable diseases.

SEC. 12. Whenever any animal is found to be suffering from an incurable infectious, contagious, or communicable disease, and the presence or existence of such animal shall be deemed by a veterinarian of the Board of Health to be injurious to the health of other animals, the Commissioner of Public Health may direct that such animal be destroyed, and no claim shall be made against the Board of Health because of the destruction of such animal.

SEC. 13. Provincial boards may authorize, within their discretion, the payment of indemnities to the owners of animals which have been killed by order of the Commissioner of Public Health or his duly authorized representative, upon the presentation of proper descriptive certificates, showing that such animals were suffering from incurable communicable diseases, and that their continued existence would have been a menace to other animals: *Provided,* That all claims for indemnity shall be filed with the provincial board of the province in which such animals were registered, and that it shall be unlawful to pay indemnity for any unregistered animal.

SEC. 14. Subject to the approval of the Secretary of the Interior, the Board of Health for the Philippine Islands shall have authority to make and publish such rules and regulations, not inconsistent with law, as it may deem advisable for the proper enforcement of this Act, and for the suppression and extermination of contagious, infectious, and communicable disease among animals: *Provided,* That within the jurisdiction of the Moro Province such rules and regulations shall be made, published, and enforced under the direction of the governor of the Moro Province.

SEC. 15. Any person violating any of the provisions of this act, shall, upon conviction, be punished by a fine of not more than two hundred pesos, Philippine currency, or by imprisonment for not more than ninety days, or both, in the discretion of the court.

SEC. 16. All laws, ordinances, or parts thereof in conflict with this act, are hereby repealed.

SEC. 17. The public good requiring the speedy enactment of this bill, the passage of same is hereby expedited in accordance with section two of "An act prescribing the order of procedure by the Commission in the enactment of laws," passed September twenty-sixth, nineteen hundred.

SEC. 18. This act shall take effect on its passage.

Enacted, ———, 1905.

THE PROVINCIAL HEALTH DIVISION.

This division has been practically under the direct control and supervision of the Commissioner of Public Health.

The system mapped out by the Commission for the sanitation of the provinces is an excellent one. It postulates, however, competent provincial and municipal health officials. It has not always been possible, or indeed, possible in the majority of cases, to secure the proper officials, and vexation, annoyance, and failure have in many instances resulted. It is true also that the provincial and municipal sanitary authorities may act only in an advisory capacity, and their advice is frequently disregarded by the provincial or municipal councils. Whatever be the true causes, it seems clear, after three years' experience, that the present provincial organization is both inadequate and expensive. It is therefore recommended that the question of its abolition be seriously considered by the Commission.

In the place of the present organization, the following is suggested: That the Philippine Islands be divided into sanitary or health districts. That a competent physician and surgeon (medical inspector) be put in charge of each district. This medical officer should be in the employ of the Bureau of Health of the Insular Government, paid by that Bureau, and subject to the orders and control of the Commissioner of Public Health. The district should consist of several provinces, and he should be held accountable for the sanitary conditions in these provinces. He should be the adviser in all sanitary matters to the provincial councils or boards. The sanitary system of the Philippine Islands, then, would consist briefly of the following component parts:

1. The Bureau of Health, with the Commissioner of Public Health as its executive.
2. A number of district medical officers, say twelve, or more.
3. The municipal boards of health, as at present organized.

At present there are 18 medical inspectors; 1 physician in charge, San Lazaro Hospitals; 1 director of the Culion leper colony; and 1 chief health inspector; in all, 21 physicians, not counting the Commissioner of Public Health. At present the members of this force are distributed as follows:

In charge of leper colony, Culion	1
Physician in charge, San Lazaro Hospitals (on leave)	1
Chief health inspector	1
Assistant to physician in charge, San Lazaro Hospitals	1
In charge, Sampaloc Hospital	1
Health officer of Lepanto-Bontoc	1
Acting president, provincial board of health, Cebu	1
In charge of vaccinating companies in provinces	5
Inspecting in provinces	3
On duty in the city of Manila	5
On duty with prisoners, in provinces	1
Total	21

It will be seen, therefore, that 12 of the medical inspectors are now doing provincial work, which, with the possible exception of the care of the prisoners, should be done by the presidents of the provincial or municipal boards of health. In other words, it has been found necessary for the Bureau of Health to take over a considerable part (more than half) of the provincial work in order to secure its proper accomplisment.

It is believed that 5 medical inspectors, or fewer, are sufficient to look after the sanitary condition of the city of Manila, so that from 10 to 12 of the present force could be counted on to do the work of district medical officers. There are also certain valuable presidents of provincial boards of health, who could be added to the present force of medical inspectors, taken over by the Bureau of Health and utilized as district medical officers.

While 12 district medical officers would suffice, and that number might be provided with little or no increase in the medical inspection force, it is considered advisable that a few of the presidents of provincial boards of health should be taken over, as some of these men are very familiar with their duties and have rendered excellent service.

At present there are 31 presidents of provincial boards of health, whose salaries amount to $37,800, United States currency. This money might be saved for the provinces. If a small proportion of the tax collected in the provinces, say, not to exceed one-eighth of 1 per cent of the assessed value of the lands, could be set aside for general sanitary purposes, to be expended on the advice of the district medical officer, under the supervision of the provincial board, it might be well.

In case the recommendations herein made meet with the approval of the honorable the Secretary of the Interior, and of the Commission, it is suggested that the medical inspectors be designated "district medical officers," and the Bureau of Health be designated "Bureau of Insular Medical Service."

Each district medical officer could, in addition to his duties as general sanitary officer of his district, perform the medical and surgical work of any district hospital which may be established.

It is believed that the plan above sketched would go far toward relieving much suffering which now exists in the provinces, and might save many valuable lives.

THE SANITARY CODE.

The Board of Health for the Philippine Islands, acting in its capacity as the local board of health for the city of Manila, has drafted a sanitary code in accordance with the provisions of Act No. 1150, and forwarded the same to the Municipal Board of the city of Manila, through the honorable the Secretary of the Interior. This proposed code is appended as a part of this report. The material embodied in the draft of the proposed code was taken from the existing city ordinances, the sanitary code of New York, and the sanitary laws and ordinances of the principal oriental cities; however, most of the matter is entirely new and original.

INSANITARY HABITS.

It is not surprising that in a country where the nature and cause of disease are so little understood by the masses as they are in the Philippines that there should prevail many habits and practices of an insanitary nature.

The servant class of the country contribute more than their share to these insanitary practices. The prevalence and spread of tuberculosis testify to the curse of the habit of careless spitting, which is so common amongs orientals; nor are all the Americans in these Islands blameless in this respect.

The ravages of tuberculosis reflect upon the application of sanitary knowledge; and until the bacteriological origin of disease becomes generally realized and appreciated, the cause of sanitation must rely upon laws and ordinances to do what ought to be done by the exercise of common sense and common decency.

The ultimate success of the teachings of the gospel of cleanliness as a prevention of disease, depends more upon the public schools and good examples, than upon the direct efforts of sanitary officials.

CITY SANITARY INSPECTIONS.

This branch of the work is performed in the city of Manila by the sanitary inspectors and the sanitary police, under the direction of the district medical inspectors.

The inspection service is under the general supervision of the chief health inspector, in whose report may be found the figures showing the extent of the system.

The inspectors of the Board of Health collect statistics of births, report to the respective health stations all cases of sickness needing the attention of municipal physicians, make a note of all sick animals for the veterinary division, and perform many other collateral duties in addition to their regular work of domiciliary inspections.

The general sanitation of the city is largely dependent upon the division of the collection and disposal of garbage and city refuse, and upon the pail conservancy system, both operated under the supervision of the city engineer.

SANITARY MAINTENANCE OF PUBLIC PLACES.

The Board of Health has found it necessary to recommend special ordinance regulations for the sanitary maintenance of public places, in which it is made obligatory that no hotel, lodging house, saloon, theater, school, factory, or other public place or assembly be permitted to be opened to the public until adequate and suitable privy or latrine accommodations are provided.

Next after the necessity for easily accessible exits for use in case of fire come the sanitary necessities of such places.

The habit of careless spitting is so general that it is almost impossible to make any impression upon it. It will undoubtedly require years of patient waiting before the results aimed at will begin to show.

As stated before, the hope of the future lies in the proper education of the people.

The proposed sanitary code for Manila deals at considerable length with the problems presented in this question.

INSPECTION OF FOOD AND DRINK.

By ordinance regulations the owner, keeper, or manager of any place or premises where food or drink is manufactured, stored, kept, or offered for sale is required to keep such place or premises and everything used therein or appurtenant thereto in a sanitary condition, and food unfit for human consumption is not permitted to be sold.

The question of perishable goods, unwholesome animal foods, adulteration of foods and drinks, meat inspection, milk, and unwholesome waters are fully covered in the sanitary code. The pure-food committee appointed by the honorable the Secretary of the Interior in the report stated that the existing legislation on the subject was ample, but that a food inspector whose duty it would be to enforce the laws was urgently needed.

Under the present system of inspection, which has not been altogether without favorable results, it is practically impossible to enforce proper observance of the ordinances, which are, however, violated as often through ignorance as through evil design.

The food inspector, when appointed, should be a specialist in this important branch of sanitation, as well as a man of tact, judgment, and energy. The magnitude of the task awaiting such an official is only equaled by its importance.

It is recommended that, as soon as the financial conditions will permit, the position of inspector of food and water supplies be authorized, and that the inspector be empowered to impose administrative fines, subject of course to appeals to the courts.

The Board of Health has caused samples of poisonous fish, rice, canned goods, special native foods, and other substances to be analyzed, and has taken every precaution permitted by its limited facilities to safeguard the health of the people, but the field has scarcely been touched.

PUBLIC BATHS AND LAUNDRIES.

The poor people of Manila use the esteros and the river for laundry and bathing purposes, partly for convenience, but principally for economical reasons. This insanitary practice could be done away with very effectually by the establishment of free public laundries and free bath houses, well supplied with pure water. To some this may seem to be a needless expense, but as a health measure it is of the greatest importance.

The cost of operating these institutions when once in working order would be insignificant and the primary expense very little in comparison with the good that would be accomplished.

TIENDAS.

There are about 1,500 tiendas in Manila where food and drink are sold. These establishments are a great convenience to the people, especially to the working classes. It is very difficult even under the most favorable circumstances, to keep these places in a sanitary condition, because the danger of food contamination is a purely theoretical proposition to the minds of the keepers, whose knowledge of such matters is as limited as their interest in the preservation of the public health. It will probably be necessary for the city authorities to require and supply, at a reasonable cost, suitable screens for articles which are exposed to contamination by the contact of flies.

The careless handling of food supplies during the cholera epidemic was undoubtedly responsible for many cases of that disease.

PLUMBING.

A plumbing ordinance for Manila has been drafted by the Board of Health and presented to the Municipal Board as a part of the sanitary code. Another important step has been the appointment of an inspector of plumbing as an auxiliary officer of the division of buildings and illumination.

Act No. 1323 authorizes the issue of $4,000,000 worth of bonds for the construction of a complete system of sewers and new waterworks for the city of Manila, in accordance with the plans of Maj. J. F. Case, for the water supply, and Mr. O. L. Ingalls, for the sewer system.

The proposed plumbing ordinance has been adapted principally from the plumbing law of the District of Columbia, and will eliminate many of the so-called plumbers now doing business in the city, and necessarily raise the standard in other particulars.

Since American occupation the installation of modern plumbing fixtures has become so extensive that many unqualified men have taken up the business to the detriment of sanitation and the best interests of the property holders. The Board of Health has insisted that all plumbing work of whatsoever character should be done in accordance with the requirements of sanitation, and by the time the new sewer system is ready for connections, the plumbing ordinance will be so well understood that very little defective work will be attempted.

The sanitary engineer for the Philippine Islands is ex officio the consulting engineer of the municipal government in matters of sanitation. In this way the two offices coöperate with each other and avoid all conflict of authority.

BEAUTIFYING MANILA.

The moat around the old walls is being filled in by pumping the mud excavated by the great dredger used by the Atlantic, Gulf and Pacific Company, in the works of the improvements of the port of Manila. The space occupied by the unsanitary and unsightly moats will be utilized in making recreation grounds. It is the purpose to reclaim all the tide lands opposite the Luneta, widen Malecon Drive to 250 feet, and extend the same several miles along the bay.

According to the plans that will be recommended by Mr. D. H. Burnham, of Chicago, the renowned landscape architect, the entire space occupied by Camp Wallace will be taken up by a series of public buildings of beautiful and imposing architecture.

It is understood that Mr. Burnham, who came to the Philippine Islands at the request of the Commission, also visited Bag̃uio, Benguet Province, Pagsanjan, Laguna Province, and several other places in the Islands for the purpose of including them in his plans of municipal improvements. This great undertaking, which also includes the widening of several streets, the planting of shade trees, the establishment of public parks, even if carried out in part, will have a far-reaching effect upon public sanitation.

WIDENING THE STREETS.

In discussing the present and contemplated sanitary improvements in Manila, the question of widening the streets should not be overlooked.

The Municipal Board has already begun the work and will carry it on as rapidly as circumstances will permit. It involves an enormous outlay of money, but in the course of time it will prove to be one of the best investments that could possibly have been made.

Sunshine and fresh air are the enemies of pestilence and disease the world over, and especially so in the Tropics.

HABITATION.

Three classes of dwelling houses may be observed in the principal cities of these Islands, and two classes in the small municipalities. These different classes of structures have been appropriately called "Filipino houses," "Spanish houses," and "modern houses."

"Filipino houses" are constructed of light materials, with roofs of nipa thatch, and are cool, dry, and well ventilated, and, when erected on sanitary sites and kept clean, are very desirable habitations, notwithstanding their highly inflammable character, which prohibits their erection within the fire limits.

The "Spanish house" is of the type of heavy masonry, demanded by the conditions of several hundred years ago, in order to obtain security from fires, earthquakes, and the attacks of invading foes. This class of buildings is insanitary and uninviting, and supplies most of the plague cases and more than their share of the cases of pulmonary tuberculosis.

"Modern houses" are constructed of hard or mixed materials, surrounded by porches, and are light and airy. This class of houses has not yet found its way into the small municipalities where ordinances have not established fire limits to preclude the erection of the Filipino houses.

OVERCROWDING.

In my first and second annual reports this matter was discussed at considerable length, and attention was called to the conditions which made the solution of the problem so difficult. While the outlook is now brighter than at any time during my administration, it is not at all satisfactory. However important a factor the electric street-car system may be in alleviating the situation, there are other things more important, and they must come before the people can avail themselves of the advantages offered by the new transportation facilities. There must be cheap homes within easy access of the business centers. The greater part of those who live in the overcrowded districts are unable to patronize the cars.

A system of municipal tenement houses, rented at the lowest possible figure consistent with the object to be attained, seems to be the only feasible solution.

Under the prevailing tariff of exorbitant rents overcrowding can not be regulated, nor would it be fair to the poor people to attempt to enforce the ordinances against it.

The term "overcrowding," as used in the proposed sanitary code, means that no dwelling or other building, or part thereof, constructed of strong materials, occupied or used by human beings, shall have less than 500 cubic feet of air space for each adult found or ascertained to live, work in, or occupy the same. Two children under 10 years of age are counted as one adult. And that every closed stable, corral, pen or premises of strong material, must contain 800 cubic feet of air space for each horse, mule, carabao, or head of cattle, and 300 feet of cubic air space for each sheep, goat, or similar animal found or ascertained to be kept or quartered therein.

Each story of every domestic house, after the passage of the code, will be required to be provided with one window, at least, opening directly into the external air, and the total area of such window or windows shall be at least one-tenth of the floor area of such story, and each story of every such building is required also to be provided with a window of at least 10 square feet superficial area, opening into the open space in the rear of such building.

Those who live in overcrowded conditions such as exist in many parts of the city are to be pitied more than censured; and in all cases of administrative interference, the accountability should be forced upon the offending landlords, whose grasping natures find expression in many of the hardships endured by the poor.

RIVER AND HARBOR POPULATION.

About 16,000 human beings, with their retinue of fighting cocks and other domestic animals, live on board the crafts that ply the waters of Manila Bay, Pasig River, and the esteros. In these floating homes many of these people first saw the light of the world; there they live their lives, marry, rear their children, and only become land dwellers when they die and are buried in the cemeteries, and then only because of the law prohibiting the throwing of the dead into the river or harbor.

The conditions of the life which they lead present many features of interest to the sanitarian. They are usually below the average intelligence and practice many insanitary vices.

Public latrines convenient to fixed places of moorage should be erected on shore, and arrangements made to pipe the city water to accessible points, and the use of river water restricted.

OFFENSIVE AND UNWHOLESOME OCCUPATIONS.

The regulation of offensive and unwholesome occupations is, by the provisions of Act No. 82, left with municipal councils, except in the city of Manila, where they are to be governed by the sanitary code prepared by the Board of Health.

Such institutions are necessary evils, but in all cases they should be operated under the most stringent regulations.

If the proposed sanitary code becomes a city ordinance, the Board of Health will have authority to make such regulations as may be necessary to secure, so far as possible, the sanitary maintenance of such institutions, and the city engineer will have the authority to cause the closing or removal of all such establishments as the Board of Health for the Philippine Islands may from time to time declare to be a nuisance dangerous to the public health.

The new sewer system will simplify this problem, as it will many other problems affecting general sanitation.

MARKETS AND SLAUGHTERHOUSES.

The municipal board has made extensive improvements in the city markets during the last year. Considering the great number of people who frequent them and the variety of merchandise sold in them and the effect of the climate upon perishable foodstuffs, they are kept in a good sanitary condition.

The habits of the vendors and customers in the city markets have undergone a noticeable change for the better during the last three years.

These institutions are an important source of revenue to the municipal government, and the public welfare could not be better served than by applying the greater part of the revenue so derived to the improvement of these necessary establishments.

The city ordinances prohibit the slaughter of any fourfooted animals for food or sale, except in public slaughterhouses. The decision of the inspector of the Board of Health condemning any animal for slaughter, or any meat as unfit for food, is final, and the slaughterhouse is required to be kept at all times in an orderly and sanitary condition, and to be thoroughly cleaned at least once in the morning and once in the evening of each day. The skulls and all other discarded parts or contents of animals are removed from the slaughterhouse as soon as practicable after the animal has been slaughtered.

There is collected for each kilogram of meat, including the tongue, heart, and liver, of any animal slaughtered, a fee of 3 cents, Philippine currency, and no meat is permitted to be taken from the slaughterhouse until the fees have been paid.

The following table shows the receipts, expenses, and net revenues for the several markets and the matadero for the last fiscal year, as reported by the Municipal Board of the city of Manila:

Name of market.	Receipts.	Expenses of collections.	Outlay for improvements.	Net revenues.
Divisoria	₱145,765.06	₱8,611.92	₱9,163.48	₱127,989.60
Quinta	66,520.21	4,047.92	5,812.61	56,659.68
Arranque	31,884.85	2,776.41	8,427.41	20,681.03
Herran	10,006.78	798.75	2,175.85	7,032.63
Anda	3,833.64	829.77	2,018.04	985.83
Sampaloc	7,484.67	457.43	2,326.10	4,701.14
Santa Ana	1,610.08	369.26	----------	1,240.82
Tetuan	4,726.59	433.20	----------	4,293.39
Bahia	6,367.84	1,334.00	----------	5,033.34
Esteros	7,594.96	494.50	----------	7,100.46
Total	285,744.13	20,153.16	29,922.99	235,667.98
Matadero	175,645.34	9,612.79	9,724.23	156,308.32

STREET CLEANING.

This important branch of sanitation is conducted by the department of street cleaning and collection and disposal of city refuse.

In my two preceding reports I have called attention to the very satisfactory manner in which this work is done. This service has been extended until its importance demands that it should be equipped with every modern appliance suitable for use in Manila. At present the work is carried on principally by hand labor. Street cleaning is so intimately connected with municipal sanitation that in some cities of the United States the two are classed together and called the department of health and street cleaning. The Board of Health for the Philippine Islands recognizes that the credit for much that has been done to secure a condition of municipal cleanliness in Manila should be given to this branch of the city government.

DESTRUCTION OF RATS.

The Board of Health has maintained a permanent corps of rat catchers, and during the seven months ending March 31, 1905, there were caught 113,015 rats. This work has been recently interrupted on account of the lack of funds, but it is hoped that the interruption is only temporary. This is one of the most effective prophylactic measures against plague.

Bacilli have been found in some of the rats which were sent to the Bureau of Goverment Laboratories, and the consensus of opinion is that rats are important factors in the propagation and spread of the disease.

ESTEROS.

It is a part of the general plan of improvements now being worked out by the city engineer, under the direction of the Municipal Board, to fill in all esteros that serve no useful purpose, and to dredge and wall the others, thus making them an important feature in the scheme to beautify the city.

The esteros are of considerable commercial importance, affording employment to several thousand persons engaged in casco or other small craft transportation. The Board of Health has sought to limit as much as possible their use as open sewers, and no sewage drainage, factory refuse, or other foul or offensive liquid, or other material, can be lawfully thrown or discharged into them, except when the same is done under low-water mark, and in such a manner and under such conditions that no nuisance can be caused thereby. It has even been found necessary to forbid by city ordinance the storing of logs and bamboo in such a manner as to obstruct the free flow of water.

The new sewer system, when completed, will relieve the esteros of the disagreeable duties which in spite of ordinance regulations are forced upon them by the existing conditions.

COLLECTION AND DISPOSAL OF NIGHT SOIL.

On February 1, 1904, the transportation and equipment used in the collection of night soil was transferred from the Insular Purchasing Agent to the department of engineering and public works of the city of Manila. The employees of this service which had been under the control of the Bureau of Public Health were also transferred to the same department.

The night soil had been collected by means of the pail conservancy system, the odorless excavators, and private scavengers. After July 1, 1904, it was deemed best to dispense with the antiquated and insanitary methods used by private contractors, and require the use of odorless excavators. On account of the cost of these excavators, which have to be imported from the United States, the private scavengers were practically forced out of business, and all the work of this character is performed under the direction of the superintendent of the street cleaning and the collection and disposal of city refuse, in the department of engineering and public works. Odorless excavators are used for removing night soil from vaults and cesspools. They consist of 500 gallon tank wagons, pumps, suction hose, and other necessary equipment especially designed and constructed for performing this work in a sanitary manner at a minimum price and without annoyance to the public.

THE PAIL CONSERVANCY SYSTEM.

The pail conservancy system has been established in many private houses, public buildings, and public closets. The system has demonstrated its utility as a sanitary measure. The special features of advantage are the nominal expense to householders for the service, the despatch with which it can be installed, the security from plumbers' bills, and the annoyance incidental to repair work on sanitary fixtures, and its availability and adaptability.

Wooden pails generally placed in commodes are used for the reception of the night soil. After twenty-four hours clean pails are substituted, and the pails which have been used are removed, tightly covered, placed on trucks, carried to the barge *Pluto* and there emptied, washed, and disinfected.

The *Pluto* was designed and constructed for this work. It is a seagoing barge of the following dimensions: Length over all, 130 feet; length between perpendiculars, 125 feet; fresh-water capacity, 40 tons; speed, 10 miles per hour.

The garbage hold is fitted amidships, top of hold extending 2 feet 9 inches above molded depth, and constructed of steel plates and angles, capable of holding 240 tons in 16 tanks.

Many improvements have been made in the service and its scope of usefulness greatly enlarged, the credit for which is due to Mr. J. C. Mehan, the superintendent of street cleaning and the collection and disposal of city refuse, and Mr. Will L. Doud, the officer in charge of the system.

PUBLIC CLOSETS.

Upon the recommendation of the Board of Health several public closets have been established in the thickly populated centers, where proper facilities of this kind were needed. These closets are supplied with clean pails daily. It is recommended that each pail be inclosed in a stall provided with a door which may be fastened on the inside. There should also be more care observed in labeling the closets for women and in enforcing the observance of modesty and cleanliness.

COLLECTION AND DISPOSAL OF GARBAGE, REFUSE, AND DEAD ANIMALS.

This work is carried on by the department of street cleaning and the cellection and disposal of city refuse, under the provisions of Ordinance No. 4, as amended by Ordinances Nos. 7, 48, and 56, which require the occupants of every building, premise, or place of business to place all garbage and rubbish in cans on the outer curb of the sidewalk, between 8.30 p. m. and 5 a. m., or to notify the superintendent of street cleaning and the collection and disposal of refuse of any unusual quantities of rubbish or trade refuse at least twenty-four hours before removal is necessary.

All garbage is burned in the city crematories, as is also the city rubbish, except such parts of the latter as can be used for filling in lowlands.

Dead animals are also removed and cremated without expense to the owners by this service.

DISINFECTIONS.

The number of disinfecting squads was reduced, by the last appropriation act, to three. This number has been found practically sufficient for the present needs in the city of Manila. It has been found necessary at times to send some of the disinfectors to places at some distance from Manila.

There is a modern, portable steam disinfecting apparatus, which has been found of great value when bedding or clothing or large articles are to be disinfected.

INSPECTION OF PUBLIC SCHOOLS.

The Board of Health has caused to be made, from time to time, inspections of school buildings and of the children in attendance.

No systematic arrangement has been made for making inspections at stated periods. This is one of the questions that will devolve upon my successor.

Public vaccinators from this Bureau, under the charge of a medical inspector, have visited all the schools in the city of Manila and vaccinated the pupils in attendance.

The teaching of personal hygiene and sanitation should be a part of the curriculum of every public school. Capt. Edward L. Munson, of the Medical Corps of the United Stated Army, formerly assistant to the Commissioner of Public Health, has written a book upon hygiene, specially adapted to the Philippine schools. This book will be adopted by the Bureau of Education as a text-book for use in the public schools. Dr. Munson is the author of an exhaustive treatise on military hygiene.

It is understood that Dr. J. B. Thomas, of the Civil Sanitarium at Baguio, Benguet is engaged in the preparation of an elementary special work on physiology for use in connection with Dr. Munson's book.

LOWLANDS.

Since my last report several small tracts of lowlands have been filled in. No animal or vegetable substance, or any street sweepings, dirt gathered in cleaning yards, buildings, esteros, or any other material likely to become offensive are permitted to be used.

No order in regard to cleaning, draining, or filling in such lowlands, marshes, or stagnant water, involving an expenditure of more than ₱300 is effective without the approval of the honorable the Secretary of the Interior, as provided for in Act No. 1150, authorizing a sanitary code for Manila.

MOSQUITO MARSHES.

The Board of Health has taken up the matter of destroying the larvæ of the mosquitoes.

All the known breeding places of mosquitoes are treated with petroleum for this purpose.

The report of the chief health inspector, under whose supervision the work has been done, will give special statistics with respect to this service.

The filling in of the moat should reduce the number of mosquitoes in Manila, and correspondingly reduce the chances of malarial infection.

OPIUM-SMOKING ESTABLISHMENTS.

There are two hundred or more of these places where Chinese congregate to indulge in their favorite dissipation. The usual charge per man is 20 cents a pipe, which includes table space which the victim may occupy while he is dreaming the dreams so dear to the Chinaman's heart.

These establishments are usually conducted in the back rooms of some business house. The vigilance of the police and the special care given them by the inspectors of this bureau keep them in a reasonably sanitary condition.

The number of Filipinos who have acquired the habit is relatively small.

It is probable that as long as there is a Chinaman in the Philippine Islands there will be opium smoking, because they are ingenious enough to obtain the drug regardless of whatever legislative restrictions may be placed upon it.

It should be stated that the better class of Chinese condemn the practice.

Owing to the fact that these establishments are not regulated by law, it is not practicable to force this practice out of Chinese laundries and tiendas, where recruits are taught the habit and initiated into the mysteries of the seductive drug.

It would probably be better to recognize officially the presence of the evil and regulate the same by laws and ordinances.

SAN LAZARO MORGUE AND CREMATORY.

Both of these modern institutions have been erected during my term of office, displacing the temporary establishments which were not at all suited for the purposes for which they were used.

The San Lazaro crematory is for human remains only, the bodies of dead animals being cremated in special crematories conducted in connection with the street department of the municipal government.

Notwithstanding the erection of a new modern crematory, this sanitary and sensible way of disposing of the dead is seriously objected to by Filipinos and Chinese, probably on account of their religious beliefs.

The Japanese, the most progressive of the Orientals, have recognized the scientific reasons supporting the claims of those who advocate this method of disposing of the dead, and the Japanese colony in Manila has no cemetery, its dead being cremated.

The Board of Health, in deference to the prevailing sentiment, has not practiced cremation to the extent that its scientific value as a means of promoting the interests of the public health has demanded, resorting to this method of disposing of bodies only in those cases in which burial was rendered inadvisable by special circumstances.

The morgue is provided with glass tables and other modern equipment for post-mortem work, and all bodies in which death has been due to infectious diseases, or to unknown causes, as well as those in which the circumstances of death demand medico-legal investigation, are received into this institution and properly prepared by competent assistants, for autopsies.

The statistical tables submitted by the physician in charge of San Lazaro Hospitals show the number of bodies disposed of by cremation.

BURIAL OF PAUPERS.

The city makes provision by contract for burial of the pauper dead. This privilege is very seldom, if ever, abused. Filipinos never permit their dead to be buried as paupers when it is possible for them to secure the necessary money. The bodies which are interred by the city are principally those who die in the pauper wards of the San Juan de Dios Hospital, the bodies of orphans and of the aged who die in the Hospicio de San José, the bodies of pauper lepers, and the remains of floaters found in the river and bay.

Proper respect for the remains of the dead is a part of the Filipino's religion, and unless it is absolutely necessary, the last offices and attention are not intrusted to strangers.

It is recommended that the system of free burials be continued.

TRANSPORTATION.

The question of transportation is a vexed one. Transportation heretofore, in Manila and in the provinces, has been both expensive and not to be depended upon. It is hoped that the Manila tramways will solve the difficulty with which the Bureau of Health is at present confronted in that city. It may be years, however, before the question of transportation in the provinces is solved.

BOARD OF HEALTH LAUNCH.

For the purpose of inspecting river craft and keeping the waters free from dead animals, and for conveying vaccine supplies and other articles for shipment to boats in the bay, the Board of Health should be provided with a steam or electric launch, small enough to go under the bridges, but strong enough for the service in the bay.

The leased launch formerly used by the Board of Health has been given up on account of the lack of sufficient available funds for continuing the lease.

ELECTRIC STREET CARS.

The operating of modern rapid transit sanitary cars will no doubt prove an important factor in the health conditions of Manila. It will help to solve the problem of overcrowding, as well as that of suitable recreation. In will also enable medical aid to be summoned quickly when needed, and in many other ways contribute to the cause of health and public comfort. It will reduce the number of flies by reducing the number of stables, and contribute largely toward municipal cleanliness.

There will be accidents at first, until the people learn that the question of safety and the immunity from danger lies with themselves, but the company has made arrangements for ample hospital facilities for the treatment of the injured. It is hoped that the gong of the electric car will sound the death knell of the "mañana habit," which has been responsible for its full share of sanitary failures and disappointments.

DEATHS FROM ACCIDENTS.

The number of deaths from accidents in the Philippine Islands, and especially in the city of Manila, is surprisingly small, even if those from accidental drowning and other marine casualties are included.

The faulty insulation of electric wires and the careless manner of suspending such wires have been sources of constant danger. The Municipal Board has taken the matter in hand and will require all the safeguards for the protection against accidents that can be provided.

It is likely that the number of accidents in Manila will increase now that the electric car system has been established.

In this connection it is interesting to note that an enterprising firm, the Ericson Artificial Limb Company, of Minneapolis, Minn., has established an agency with A. S. Watson & Co. for the sale of their wares. This is, I believe, the first agency ever established in the Philippine Islands for the sale of artificial limbs.

MEDICAL ORGANIZATIONS.

The American Medical Association, at the meeting in New Orleans, May, 1903, authorized the affiliation of the Manila Medical Society on the basis of a state organization.

The society had been organized and brought up to a high degree of usefulness by the efforts of a few leading men of the profession, and its constitution and by-laws were so well adapted to the requirements of a local organization, that it was deemed best, in order to preserve the integrity of the local society and at the same time to comply with the demands of the national association, to organize another body to be known as the Philippine Islands Medical Association.

The component societies recognized by the constitution of the organization are provincial, district, and local medical societies which are duly chartered by the association.

The constitution of the association contemplates the organization, as soon as conditions will permit, of a medical society in each province of the Philippine Islands.

The second annual meeting of the Philippine Islands Medical Association was convened in the library hall of the Bureau of Government Laboratories, Manila, P. I., Wednesday March 1, 1905, and was called to order by the president, Dr. J. R. McDill, at 4.10 p. m., and the exercises opened with the following beautiful prayer by His Grace, Most Rev. Jeremiah J. Harty, D. D., Archbishop of Manila:

> Be pleased, our Father, to look forth from Thine Own glory and communicate to this assembly of physicians something of Thy Life which Thou hast for Thyself and all Thy creatures. Grant that they may know Thy presence by the rising in them of that faith, that hope, that love, and all those affections so necessary for the successful physician. And we ask that Thou wilt bestow upon this assembly a comprehensive heart so that there may be realized in them the immortal words of the great poet:
>
> "A wise physician, skilled our wounds to heal,
> Is more than armies to the public weal."
>
> God bless the doctors here assembled and all the world over and let the domestic circles which have felt their help, their comfort, their restoration to health, say, Amen.

The address of welcome was delivered by the Hon. Dean C. Worcester, Secretary of the Interior.

THURSDAY AFTERNOON SESSION.

The meeting was called to order at 4 p. m. by the president. The address on beri-beri by Prof. Erwin Baelz, University of Tokio, was read by title, the author being unavoidably absent.

"Social Diseases," by Dr. Paul Clements, was read by title.

"Address on Forensic Medicine," by Judge E. F. Johnson, was read by title.

"The Philippine Constabulary Medical Service," by Dr. W. P. Baker, was read by title.

"A Search into the Nitrate and Nitrite Content of Witte's Peptone, with Special Reference to Its Influence on the Demonstration of the Indol and Cholera Red Reactions," by Dr. Wm. B. Wherry, was read by title.

"Glaucoma Among the Friars," by Dr. C. J. Miner, was read by title.

The following papers were read and discussed by the association and guests:

"Address on Immigration," by Dr. Victor G. Heiser.

"The Episcopal Dispensary and the Medical Care of the Indigent," by Dr. C. Radcliffe Johnson.

"The control of Tuberculosis," by Col. D. M. Appel, United States Army.

FRIDAY AFTERNOON SESSION.

The association was called to order at 4 p. m. by the president.

The following papers were read and discussed.

"Measles in the Tropics," by Dr. Rudecindo Cuervo.

"Results of Cold Irrigation as Compared with Warm Irrigation in the Treatment of Gonorrheal Urethritis and Endometritis," by Dr. E. C. Shattuck.

"The Symptoms, Diagnosis, and Prognosis of Uncomplicated Intestinal Amebiasis (Amœbic Dysentery) in the Tropics," by Dr. W. E. Musgrave.

"The Medical Department of Bilibid Prison and some of the Diseases among the Prisoners," by Dr. W. R. Moulden.

"San Juan de Dios Hospital," by Dr. R. E. L. Newberne.

"The Metropolitan Police Medical Service," by Dr. A. T. Short.

"Dentition in Relation to the Excessive Infant Mortality in Manila," by Dr. Louis Ottofy, D. D. S.

The following paper was read by title:

"The Organization, Management, and Medical History of the Civil Sanitarium at Baguio, Benguet," by Dr. J. B. Thomas.

SATURDAY AFTERNOON SESSION.

The association was called to order at 4 p. m. by the president.

The following papers were read and discussed:

"Address in Climatology," by Dr. W. S. Washburn.

"The Care of the Aged and Infirm," by Dr. M. Gomez.

"Evolution of the Medical Laboratory Work in the Philippine Islands and Opportunities Now Offered for Future Work," by Dr. R. P. Strong.

"Chinese Medicine," by Dr. Tee Han Kee.

"History of Plague in the Philippine Islands," by Dr. M. Herzog.

"A few Observations on Relapsing Fever," by Dr. Koch of Hongkong.

The following papers were read by title:

"The Military Medical Service in the Philippine Islands," by Maj. Chas. Richard.

"Infant Mortality," by Dr. Louis de Castro.

"Disinfection of Ships," by Dr. J. D. Long.

"Some Unpublished Observations on Endemic Neuritis in the Philippine Islands," by Dr. J. M. Wheate.

"The Pseudo-Diphtheria Bacilli," by Dr. E. H. Ruediger.

"History of Medicine in the Philippine Islands," by Dr. Ariston Bautista.

"Medical Laws, Customs, and Practices in the Philippine Islands," by Dr. John Maye.

"The Pathology of Intestinal Amebiasis," by Drs. P. G. Woolley and W. E. Musgrave.

"Brancho-Pneumonia in Cattle; Its Relation to Infection with Bacillus Bovisepticus," by Drs. P. G. Woolley and Walter Sorrel.

"A New Variety of Branuloma in Cattle Clinically Resembling Lumpy Jaw," by Dr. P. G. Woolley.

"Sarcoma of the Ciliary Body: A Case Report," by Dr. P. G. Woolley.

THE COLEGIO DE MEDICOS Y FARMACEUTICOS DE FILIPINAS.

The above-named society is an organization composed of the Spanish-speaking physicians and pharmacists of the Philippine Islands, governed by an elaborate and well-written constitution, modeled after the constitution of the American Medical Association.

THE PHILIPPINE CIVIL HOSPITAL.

The act under which this institution was established was passed October 1, 1901, and provided that there should be a civil hospital in Manila, known as the Philippine Civil Hospital, and that in the admission of patients preference should be given to officers and employees of the Insular and provincial governments and of the city of Manila. Emergency cases among other civilians were to be received at the hospital and treated free of charge, until such time as they could safely be removed. Civilians other than civil officers and employees were to be admitted for treatment up to the limit of the capacity of the institution under such regulations as might be established by the attending physician and surgeon and the Commissioner of Public Health, and approved by the Secretary of the Interior.

In the absence of a general hospital this institution has been made to serve this purpose on the most liberal terms compatible with the original act under which the institution was established.

The hospital has a well-trained corps of physicians, nurses, attendants, and employees. The business affairs are under the management of an experienced hospital superintendent, assisted by a well-selected clerical force.

This systematic arrangement permits the attending physician and surgeon or the chief of staff to devote the greater part of his time to the wards and operating rooms.

The Civil Hospital treats all classes of diseases, except infectious, which are sent to the new hospital for infectious diseases, conducted as a department of San Lazaro Hospitals.

All the latest appliances in surgical practice are in use in the operating room of the Civil Hospital, and the institution aims to keep fully abreast with the scientific advancement of the profession in other parts of the world.

SAN LAZARO HOSPITAL.

This hospital, mentioned elsewhere in this report, was originally founded for the treatment of lepers by the Franciscans in 1784, and has been conducted since that time under the name it now bears.

The institution is conducted by the Board of Health for the Philippine Islands, and is directly under the supervision of a medical officer designated as physician in charge, and one native physician and a competent corps of trained nurses, attendants, and other employees.

There are five departments in this institution—a leper department, an insane department, an infectious-disease department, a morgue and crematory department, and a department of steam disinfection. These five departments make up the San Lazaro Hospitals.

The women's department, established by the military government and continued by the Civil Government, has been transferred to the Sampaloc Hospital in order to make room for the insane.

LEPER DEPARTMENT.

The leper department on March 31, 1905, contained 243 patients, 148 males, and 95 females. Racially, there are 241 Filipinos, 1 Chinese, and 1 European.

The medical work of this department is performed by Dr. E. Mercado.

These people, as a usual thing, appear to be happy and contented, though their equanimity is considerably disturbed by their dread of being removed to the Culion leper colony.

If it is possible for victims of this loathsome disease to be happy, the inmates of this institution should be so, because everything that can be done to alleviate their condition is the first thought of those in charge.

THE INSANE DEPARTMENT.

This department was opened on November 13, 1904, and on the 31st of March, 1905, had 58 male patients and 19 female patients.

The stress of the problem of how to care for the insane, so far as the city of Manila is concerned, has been considerably relieved by the opening of this department.

Many unfortunates of this class, especially in the provinces, are suffering from the want of hospitalization.

INFECTIOUS-DISEASE DEPARTMENT.

This department consists of pavilions for plague, smallpox, and cholera, and special facilities for the treatment of other acute infectious diseases.

The buildings are arranged on the pavilion plan, constructed of hard material covered with rubberoid.

Each department of the infectious-disease hospital occupies a separate building connected with the administration building by covered passages.

Patients suffering from infectious diseases are permitted to retain outside physicians if they prefer to do so.

The attitude of the natives to this hospital has undergone a great change for the better since the erection of the new building.

THE MORGUE AND CREMATORY.

The morgue and crematory are conducted as a special department of San Lazaro Hospitals. Here are received the bodies of all whose deaths have been caused by infectious diseases, from violence, from unknown causes, or from any cause necessitating an autopsy or requiring legal investigation. The bodies of all paupers held for city burial are also received into the morgue.

For the seven months ending March 31, 1905, there had been 177 bodies received into the morgue, classified racially as 130 natives, 21 Chinese, 14 Americans, 12 Spaniards, and others.

The Japanese colony sends its dead to the crematory—a fact which clearly demonstrates the inherent natural traits of progress and sound reasoning which characterize this race of people.

During the period included in this report there were 15 bodies cremated, of which number 10 were Japanese.

STEAM DISINFECTING DEPARTMENT.

This department is charged with the disinfection of all articles of wearing apparel, bedding and all fabrics that may have become infected.

The new latest model steam disinfecting plant has been installed, and is now in use.

It has been the purpose of those who have been responsible for the success of these institutions to maintain them at a high standard of efficiency.

A detailed statement of all the departments will be found in the report of San Lazaro Hospitals by the physician in charge.

SAN JUAN DE DIOS HOSPITAL.

In 1596, three hundred and nine years ago, the Brotherhood of Santa Misericordia established in Manila a hospital for the treatment of civilian poor, the first civil hospital in the Philippine Islands.

Little is known of the history of the hospital from the date of its establishment until 1656, a period of sixty years; however, the records of the Bureau of Archives show that the Brotherhood of Santa Misericordia continued in charge of the institution up to that time, when they were forced, by circumstances entailed by a series of misfortunes which began to beset the institution in 1646, to abandon the work which they had struggled so hard to continue.

Beginning with the year named and lasting for a period of ten years, misfortune followed misfortune in rapid succession; earthquakes, violent storms, fires, failure of crops, loss of confidence, and dissatisfaction were the reasons assigned in the petition to the governor asking that the hospital be transferred to the Brotherhood of San Juan de Dios which had come to the Islands in 1641, and in the same year founded a hospital in Cavite, and in 1643 another for convalescents in Bagumbayan. In those early Spanish days no hospital which did not make special provisions for convalescents was considered worthy of the name.

The transfer was approved by the governor in a decree dated March 26, 1656, and sanctioned by royal decree dated December 5, 1659, from which date the institution officially became the Hospital San Juan de Dios, and remained under the management of that brotherhood until 1866, when the order was suppressed in the Philippine Islands. The hospital then passed into the hands of the Sisters of San Vincent de Paul with the provision that it should be supervised by a board of inspectors.

The history of the hospital may be divided into three periods—the first period of sixty years under the administration of the Order of Santa Misericordia; the second period of two hundred and ten years under the administration of the Brothers of the Order of San Juan de Dios; and the third or present period of about thirty-eight years, under the dual administration of a board of inspectors and the Sisters of San Vincent de Paul.

The hospital and hospital chapel were totally destroyed by the earthquake of 1863, three years before the institution passed into the hands of its present managers, who upon taking charge had to face a gloomy state of affairs: A hospital in a rented building; an increased number of patients; a diminished revenue and a lawsuit to set aside the lease of the hacienda de Buena Vista in Bulacan Province, which had been so executed as to make some political friend the beneficiary, in fact, if not in name.

This lawsuit was decided in favor of the hospital in 1870, at which date the real history of the San Juan de Dios Hospital, as we know it to-day, began, though it has been conducted under the present management since 1866.

After the suit was decided in favor of the hospital, the Bulacan property was again leased and became an important source of revenue, and has continued so, with a few interruptions, to this date.

The hospital derives more or less revenue from certain real-estate holdings in the districts of Intramuros, Binondo, San Miguel, Ermita, and some out-of-town property in Rizal Province.

Since July 1, 1903, the city of Manila has had a contract for 100 patients, paying at the rate of 70 cents, United States currency, a day for each patient.

No more charity patients are received into the hospital. Those who are not sent there by authority of the Municipal Board are required to pay, some one price and some another, according to their means.

The present management is vested in a board of inspectors, presided over by the provincial of San Francisco. The internal affairs are under the management of the Sisters of San Vincent de Paul, of whom there are 25, who do the nursing, the buying, and all the internal managing.

The chief medical officer is Dr. Joseph Donelan, who is assisted by Drs. Torrell, Valdez, Diaz Perez, Burke, Del Val, and Anguita.

The hospital is a close corporation. Patients are not permitted to employ physicians who are not on the staff.

The capacity of the hospital is not definitely known, even to the management.

There are 11 private rooms for men and 10 for women, with ward accommodations for 500 or 600 patients. The number of patients in the hospital for 1904 averaged about 225 daily, 100 of whom were paid for by the city at the rate of 70 cents, United States currency, a day, the other 125 paying according to their means.

The hospital has a pharmacy and dispensary, a chemical laboratory, a bacteriological laboratory, and facilities for the studies of histology and pathology.

These laboratories and the wards are utilized by the faculty of the San José Medical College of the Santo Tomás University for the purpose of teaching clinical medicine. Several of the faculty of the medical school are on the staff of the hospital.

The San Juan de Dios Hospital has done an important work for the Filipinos and for the cause of medical education in the Philippines.

Whatever may have been the shortcomings of this institution in the past, it should not be forgotten that during the period from September, 1898, to July 1, 1903, during which time its Bulacan hacienda was practically idle and the revenues greatly diminished, no patient was turned away from the institution. Many an American owes his life to the charity of San Juan de Dios Hospitals and to the ever-watchful care of the Sisters in charge.

ST. LUKE'S HOSPITAL AND DISPENSARY.

The Protestant Episcopal Church of America, in connection with its missions in the Philippines, has planned the establishment of a hospital in the city of Manila. The dispensary was opened during January, 1903. Daily clinics were held by a number of American and native physicians who volunteered their services to aid this worthy cause.

In July of the same year Dr. C. Radcliffe Johnson was sent from the United States to take charge of the institution, and it is principally through his efforts that its dispensary service attained its present high degree of efficiency.

Dr. Johnson made an effort soon after his arrival to establish an emergency ward, but on account of the lack of sufficient funds this feature of the work had to be abandoned.

Bishop Brent, who is at the head of the institution, has recently returned from the United States and it now seems to be an assured fact that at an early date a fully equipped hospital will succeed the present dispensary.

During the first year there were 1,409 patients, and a total of 3,979 visits. The second year, recently completed, showed an increase of 135 per cent, or 3,326 patients, with 8,329 visits.

The carefully kept records show that tuberculosis leads in point of numbers, which is not surprising when the unhygienic habits of the people are considered, together with overcrowding and oftentimes the insufficiency of nutritious food. By far the greatest factor in the spread of this disease is the inability of these people to appreciate the necessity of care in expectorating.

Next to tuberculosis stand acute bronchial affections, commonest in children.

Intestinal diseases, entero-colitis and gastro enteritis, come next. These diseases are also confined almost entirely to children of 2 years and under.

Forty-nine cases of dysentery were treated in the dispensary service of this institution last year, but in no case of those examined bacteriologically were amœbæ found, probably due to the fact that many of the specimens were too old for examination and accurate determination of the specific cause of the disease.

During the past year 200 cases of beri-beri were treated, 20 per cent of the cases being among pregnant women.

The number of venereal diseases has been relatively small, while diseases of the skin and gynecological diseases were very common, as were malarial diseases.

In the eye and ear department, presided over by Dr. Clarence J. Miner, who gives his services free, there were treated during the last year 247 new cases.

The Board of Health has supplied a considerable portion of the drugs used, and the running expenses of the institution have been helped along by contributions from a few prominent business men. Some of the indigent patients have shown their appreciation by contributing small sums.

The St. Luke's Hospital and Dispensary deserves the moral and financial support of the charitably inclined people of Manila. The fact that its work has been carried on in a modest unpretentious manner, in keeping with the character of the able man at the head of the institution, should not be an excuse for neglecting this worthy cause, which demands at once liberal financial acknowledgment.

ST. PAUL'S HOSPITAL.

The Sisters of St. Paul de Chartres, a French order of hospital and asylum Sisters, have established, under the direction of the Archbishop of Manila, a general hospital with a capacity of about 150 patients, which for the present will be conducted in the building on Calle Palacio, corner of Beaterio, formerly occupied by the municipal offices. This is probably the best-constructed new building in Manila. It was originally intended for a seminary, and with a few alterations will make a magnificent home for the hospital and dispensary.

The leading medical men of Manila will be associated with the new institution under Dr. John R. McDill as chief of staff. The main object is to make the hospital one in which patients will have the same advantages offered by the best modern hospitals of the world.

It is understood that the building on Calle Palacio is but the first of a series of structures which are to be devoted to hospital purposes as the institution grows in patronage.

There will be conducted, in connection with the hospital, a public free dispensary, where daily medical and dental clinics will be held by the leading physicians and dentists of the city. In this service no charge will be made, but in the hospital proper all who have the means are expected to pay; however, no deserving poor case will be turned away.

The emergency department was opened about April 1, 1905, and has contracted with the street-car company to care for all accident cases that may happen on any of its lines.

The hospital will be conducted as a nonsectarian institution, and bids fair to verify the statement of Dr. McDill that "St. Paul's Hospital will do all that similar institutions do in the large cities of the United States; only more, because there is more to be done."

GENERAL HOSPITAL.

Plans, specifications and estimates for a general hospital for the city of Manila and the Philippine Islands have been carefully prepared and have been submitted to the Secretary of the Interior. Funds to carry out these plans are lacking.

The necessity for the hospital is so obvious that no words will make it clearer. The site selected is good and convenient, and in most ways more desirable than the site occupied by the "First Reserve" Hospital. In case the latter hospital should be turned over to the civil authorities, attention should be called to the fact that each surgeon who has been in charge of the "First Reserve" Hospital has found himself constrained to submit estimates for repairs which amounted to so much that the military authorities were unable to approve them.

While the results attained in the "First Reserve" Hospital have been admirable, the necessity for the changes above referred to still exists, and is likely to become more and more pressing, so that the question of expenses for repairs and of the expense of constructing a new and modern hospital should be carefully compared before the plans to construct a new hospital are abandoned.

While the "First Reserve" Hospital is built on the pavilion system, the pavilions are not arranged as conveniently as they might be and are not constructed so as to obtain the best results in the matters of light, ventilation, cleanliness, etc.

As a temporary means of supplying hospital facilities to a considerable number of persons, the "First Reserve" Hospital may be considered satisfactory, but it is not sufficiently large, modern, or convenient to serve as a general hospital for the city of Manila.

The situation has been somewhat relieved by the establishment of the St. Paul's Hospital, under the Sisters of the St. Paul de Chartres.

Private institutions, however well conducted, can never be made as satisfactory and efficient under the circumstances, as a general hospital controlled by the Government.

A modern hospital for the treatment of the sick and with special facilities for the clinical study of diseases, a Bureau of Government Laboratories largely devoted to research work, and a central Board of Health engaged in the work of general sanitation with special reference to the suppression and extermination of epidemic diseases would indeed form a scientific trinity which would make Manila the medical center of the Orient.

I renew my recommendation, made in my second annual report, that any sacrifice not involving the peace of these Islands should be made in order to secure a general hospital at Manila, and proper and adequate hospital facilities at least in the principal cities of the Archipelago.

PROVINCIAL OR DISTRICT HOSPITALS.

All that has been said in my previous reports in regard to the necessity for hospitals in the provinces is still true. The need is great, but the means to establish and maintain these hospitals are not available.

No one who is not associated intimately with the people of these Islands can realize how much unnecessary suffering exists among them, or how many unnecessary deaths occur. Numbers of cases of deformities, of old wounds, injuries, and dislocations, and of surgical diseases as well as other ailments, are awaiting help at the hand of the surgeon or physician. I have very much hoped to see some of these district hospitals established by the Government during my term of office. To me, the need of hospitals seems the greatest, most obvious, and imperative need of these Islands. The suffering, diseases, and deformities must be seen to be realized, and it is well known that those afflicted with diseases or deformities are likely to conceal themselves from public view, so that it is mainly the physician who comes in contact with them and who realizes their existence. A statement of statistics or a description of the cases will neither move nor touch as seeing them does.

It was hoped, too, that the establishment of these hospitals, and their maintenance along scientific and charitable lines, might have aided in convincing the inhabitants of these Islands that the Government has their good at heart. Fortunately, the churches have not been slow to avail themselves of this means of doing good.

Plans, specifications, and estimates for the construction of twelve provincial or district hospitals have been worked out and submitted to the Commission.

In certain cases it was recommended that buildings already constructed should be leased. This recommendation was made in the interests of economy, but it is a well-known fact that old buildings, not intended for hospitals, make poor hospitals and diminish the chances of recovery from diseases, wounds, or surgical operations.

These provincial or district hospitals were intended to contain 50 beds each, to be in charge of a competent physician and surgeon (American), assisted by one or more native medical men, pharmacists, some nurses, and the necessary number of servants.

They were to have a good operating room, a few rooms for pay patients or grave surgical cases, lying-in patients, etc.

If the plan of appointing district medical officers is carried out, and that plan is earnestly recommended, it is certain that much suffering may be relieved, many deaths prevented, and a strong factor to bring about confidence, reliance, and affection for the Civil Government introduced.

Almost all the work done in these hospitals would be gratuitous. The poor and helpless would be brought in, and the effect in winning the confidence of these people in the Government would be considerable.

It is hoped that the district medical officers will not only be in charge of the provincial or district hospitals, but will also act as sanitary officers for the districts (which may contain several provinces) wherein they will be stationed.

It is believed that the district hospital will increase the influence of the district medical officers for good, and will enable them to keep abreast of their profession—a thing which a sanitary officer can not always do.

These hospitals must be provided with a few instruments of precision, for diagnostic purposes, such as a good clinical microscope and a small chemical laboratory for the qualitative and quantitative examination of the dejecta, blood, and other objects, because these hospitals will be too far from the central laboratory to avail themselves of its services in cases demanding early diagnosis.

It is not possible to practice medicine, without the use of a microscope and a modest chemical apparatus, and any attempt to do so will result disastrously for the patients and to the humiliation of the practitioner.

It is not meant by this that a chemical or microscopical outfit will be needed when a hospital is so situated that the Government Laboratories may be available; for instance, a case of fever at Cebu may present symptoms of malarial and enteric fever. The use of a microscope at Cebu may eliminate the question of malarial fever, or confirm it; but it would hardly be advisable to have at Cebu a bacteriological outfit to apply Widal's test for typhoid fever.

In some circumstances it is necessary to make a diagnosis promptly; for example, to determine the existence, or not, of acute nephritis. The microscope and a few chemical reagents will place the question beyond doubt. The same may be said in regard to a number of other diseases, including amœbic dysentery.

Speaking as a practitioner of over twenty years of experience, I repeat that no physician is justified in practicing his profession without the use of, or access to, a microscope, chemical apparatus, and other means of scientific diagnosis.

The points at which it seemed desirable to establish district hospitals are the following:

1. Aparri, Cagayan. Here a hospital will have to be built, as no building exists suitable for hospital purposes.
2. Vigan, Ilocos Sur. Here a suitable building may be rented.
3. Dagupan, Pangasinan. A suitable building may be rented.
4. San Isidro, Nueva Ecija. A suitable building may be rented.
5. Lucena, Tayabas. A building would have to be erected.
6. Cagayan, Misamis. A suitable building may be rented.
7. Albay, Albay. A building would have to be erected.
8. Iloilo, Province of Iloilo. A building may be rented.
9. Capiz, Capiz. A building may be rented.
10. Cebu, Cebu. A building may be rented.
11. Tacloban, Leyte. A building may be rented.
12. Surigao, Province of Surigao. A building would have to be erected.

It will be seen, therefore, if 12 district hospitals are to be placed in operation, and that number seems moderate but sufficient for the needs of the people, that only 4 new buildings will have to be erected.

It is believed that about 12 more medical inspectors should be authorized ultimately.

There would then be, say, 30 medical inspectors in the service of the Bureau of Health for the Philippine Islands. This would enable that Bureau to look after the sanitation of Manila, and of all the islands, and enable it to dispense with the presidents of provincial boards of health.

As there are 31 presidents of provincial boards of health, 3 acting presidents, and a number of vacancies, it will be seen that the addition of 12 medical inspectors and the abolition of the presidents of provincial boards of health would result in a considerable saving of money.

The difficulties of transporting the sick from remote islands and provinces to the Civil Hospital in Manila, and the limited capacity of that institution, as well as the preservation of the lives of those who need hospitalization, all unite in emphasizing the need of these life-saving stations—provincial hospitals.

THE INSANE HOSPITAL AT LALOMBOY.

While a board appointed to investigate the above-named locality reported favorably on it, it was stated that the buildings at present existing would not accommodate more than 80 persons, so that in order to build up a proper asylum more buildings would probably have to be constructed than would have to be constructed if San Lazaro were converted into an insane hospital.

The plans sketched for the hospital of San Lazaro would answer for Lalomboy also. The pavilion plan, with proper separation of pavilions, is the most sanitary, the most convenient for treatment, and the safest in case of fire.

San Lazaro has the advantage of being conveniently situated in Manila, under the immediate observation of the Bureau of Health and the Secretary of the Interior and other officials. The transportation of supplies and patients would be reduced to a minimum, the purchase of supplies, stores, furniture, etc., would be easier, and the expenses would be less than they would be at a place as distant as Lalomboy is.

At Lalomboy roads would have to be constructed, which are always expensive. The roads at San Lazaro are satisfactory. The Commission, however, has not yet approved the plans for San Lazaro, but has approved of the plans for Lalomboy. This matter should be brought to the attention of the Secretary of the Interior, and be laid before the Commission for its action. I believe the San Lazaro proposition is the better one of the two.

CONSTABULARY MEDICAL SERVICE.

Owing to the lack of available appropriation, the medical service of the Constabulary has not been organized in a way which its importance justifies. The prevailing conditions have made it necessary to appoint a number of nonmedical men to the position of medical inspectors—a fact which is to be greatly deplored.

In the provinces provincial and municipal health officers are required to act as Constabulary physicians.

A few very creditable hospitals have been established in the larger towns of the Islands.

The service should be more lilberally provided for or placed under Regular Army surgeons.

MEDICAL SERVICE FOR THE NON-CHRISTIAN TRIBES.

Owing to the lack of a sufficient number of medical inspectors, it has not been practicable to maintain medical service in all the provinces of the non-Christian tribes.

A physician with a supply of medicines has been stationed at Cervantes, Lepanto-Bontoc, in the Igorot country.

The attending physician and surgeon at the Civil Sanitarium at Baguio, Benguet, in addition to his other duties, looks after these people in the Province of Benguet.

THE MEDICAL DEPARTMENT OF BILIBID PRISON.

The medical corps of Bilibid Prison consists of a resident physician, 2 American hospital attendants, an American druggist, 2 Filipino hospital stewards, and 40 prisoners, 3 Americans and 37 Filipinos, who have been detailed and trained to act as nurses and attendants. There are also a physician and a corps of attendants at the penal colony at Puerto Princesa, Paragua.

The medical work of the prison is carried on in two hospitals—Hospital A, the main prison hospital, located within the prison grounds, and Hospital B, for tuberculosis, situated on the south bank of the Pasig River just east of the Ayala Bridge.

Hospital A is situated in the northern part of the penitentiary, in a separate stone-wall inclosure, isolated from the remainder of the prison. This hospital has an observation ward, in which are entered all incoming sick, who are there bathed, subjected to a thorough physical examination, accompanied by a microscopical examination of the blood, sputum, urine, or stool, as indicated, and a diagnosis made, after which the patient is sent to the proper ward.

In this hospital are five rooms set apart for the detention of new prisoners, who are examined for evidences of infectious diseases, vaccinated, and after a period of twenty-four hours, or longer if necessary, assigned to their respective brigades. There are also isolation rooms for the treatment of infectious diseases, when present; a dark room for diseases of the eye; appropriate rooms for affections of the ear, nose, and throat; a clinical ward for skin diseases and diseases of a minor surgical nature; a general medical ward; a surgical ward; an operating room; a diet kitchen; a drug room; a laboratory, and a morgue.

In a separate stone-wall inclosure there is a special ward for women. This ward is supplied with attendants from the long-term women prisoners specially trained for the work.

Hospital B is a large, roomy building, open on all sides, and surrounded by a spacious yard, well shaded by tropical vegetation. The sun and air have free access to all parts of the grounds and building, insuring, to an unusual extent, good ventilation.

Pulmonary tuberculosis has been present in 274 prisoners admitted during the past twenty months; of this number 165 have died, 49 have recovered, and 60 are still under treatment in the hospital; of the number remaining in the hospital about 20 show signs of improvement.

The establishment of this hospital has greatly relieved the situation in Bilibid. The prison is still overcrowded, and the medical duties are too arduous and exacting for the limited force.

The work in hospital A and B is conducted under the immediate supervision of the American hospital attendants, who take orders from and are responsible to the resident physician.

The work of Hospital A commences at 6 a. m., when the American ward stewards start their respective squads to work in the duties of the day. The resident physician holds sick call at 6.30 a. m. in a special room devoted to that purpose, prescribing for all patients who present themselves for treatment.

During the twenty months ending February 28 of this year 17,903 men reported at sick call, 32,315 visits were made in the various hospital clinics, and 2,080 patients were admitted to the hospital; of this number 530 died and 1,550 recovered.

The resident physician, Dr. William R. Moulden, has had a wide and successful experience in hospital work. Prior to coming to the Philippines he had been resident physician at the Emergency Hospital and Central Dispensary in Washington city, and he no doubt owes much of his present success as a physician and surgeon to the thorough and systematic training which he received at that institution.

THE METROPOLITAN POLICE MEDICAL SERVICE.

The metropolitan police force of Manila was organized in January, 1901. It is composed of Americans and natives. At the present time its numerical strength is as follows: Americans, 12 officers, 336 men; natives, 6 officers, 416 men. There are also about 40 secret service men, making, in all, 804 men.

The entire police force and about 130 officers and men of the Manila fire department are under the medical care of Dr. A. T. Short, police surgeon, and Dr. Roxas, assistant police surgeon.

All police and fire stations are visited daily and sick records are kept. The sick are required to report to the surgeon at the station if they are able to do so; if too sick to attend sick call, the surgeon visits them at their homes. In cases where it is considered inadvisable to treat them in quarters, they are sent to the Civil Hospital.

The police surgeon is accountable for all patients who answer the sick report, until they are returned to duty.

All prescriptions are filled at the dispensary of the Civil Hospital without charge.

Patients of the police force convalescing from severe illness of operations, upon their discharge from the hospital are transferred to the river and harbor station, as are also those who suffer from sore feet. The duty on the waterfront and in the bay is lighter, and is of such a nature as to require very little walking.

The police ambulance is supplied with emergency dressings and with suitable appliances for handling the injured.

MUNICIPAL PHYSICIANS.

Manila is divided into seven health districts, and in each district there is one municipal physician, whose duty it is to attend the indigent poor in their homes, and to prescribe for such as present themselves at the free clinics held at the Board of Health stations every morning except Sunday. There is another municipal physician on duty at the Sampaloc hospital, making in all eight medical men who devote their entire time to this class of patients.

These physicians are intelligent, educated men, who have been selected after having passed a civil-service examination. It is not an extravagant statement to say that these eight men do as much good as any other eight men in the city of Manila, regardless of race, profession, or attainments. Statistics of this service may be found elsewhere in this report.

FREE MUNICIPAL DISPENSARIES.

There are three municipal dispensaries, one in Tondo, one in Quiapo, and one in Paco, where the poor are supplied with free medicines and medical supplies. Here are filled the prescriptions of the municipal physicians and the district medical inspectors.

The question of the continuance of the municipal pharmacies is under consideration. That these institutions are productive of good and that they render assistance to the most needy and helpless class of persons are obvious facts, but they are an element of some expense, and at present necessity exists for the reduction of all expenses connected with the Bureau of Health.

OTHER FREE DISPENSARIES.

Free dispensary services are special features of the St. Luke's Hospital and the St. Paul's Hospital.

Dr. Annie Norton, formerly a Methodist missionary, has opened a dispensary in Santa Mesa district in which medicines are dispensed practically at cost.

With all these opportunities to get something for nothing the Filipinos have not abused the privileges extended to them.

MUNICIPAL MIDWIVES.

The Board of Health employs, for the city of Manila, one Spanish and seven Filipino midwives, who attend, without charge, all confinements occurring among the poor of their respective districts.

They are provided with maternity bands and with antiseptic dressings for the cord, and are instructed by the district medical inspectors and the municipal physicians in the principles of obstetrical cleanliness.

Nearly all of the midwives employed in this service hold certificates of graduation from the Santo Tomás University, and all are duly registered in accordance with the provisions of Act No. 310, regulating the practice of medicine and surgery in the Philippine Islands.

The municipal midwives render such assistance as they are capable of, to a most needy class of persons. In general, it may be said that these municipal midwives, while not properly prepared for their work, are less improperly prepared than the other women who would attend lying-in cases, if the municipal midwives were discharged.

MUNICIPAL FREE CLINICS.

Except on Sundays, free municipal clinics are held every day, from 8 to 9 a. m., for the treatment of the poor. This service is conducted by the municipal physicians under the supervision of the medical inspectors.

Statistical information is published elsewhere in this report showing the extent of the service.

CARE OF THE INSANE, THE AGED, THE ORPHANS, AND OTHER UNFORTUNATES.

This is a problem that has given the Board of Health no little concern. A recent census of the insane of the Philippine Islands shows 2,272 men and 1,840 women, or a total of 4,112.

The demands made upon the health authorities of Manila made it necessary to remove the women's department of San Lazaro Hospital, and fit up the quarters formerly used for this class of patients as an insane ward. There are at present 76 insane persons confined in the insane department of San Lazaro.

Through the kindness of His Grace the Archbishop of Manila, the contract with the Hospicio de San José has been continued, the number of insane therein being 151. In this hospital are 38 old people and 137 orphans who are paid for at special contract price by the Board of Health.

The Hospicio de San José should be relieved of the insane, in order that more room might be made available for the care of the old people and the orphans.

While hospital facilities for about 4,112 insane patients are needed, only 227, or about 5.52 per cent, have been cared for in the San Lazaro Hospital and the Hospicio de San José in the city of Manila. No provisions have been made for the provincial insane.

There are in the various provinces of the Islands about 3,651 blind people, who sooner or later will become public charges.

While no accurate statistics in reference to the deaf and dumb are available, the matter of providing a special school for this class of unfortunates must at no distant date engage the attention of the central legislative body.

THE BOARD OF MEDICAL EXAMINERS.

The practice of medicine and surgery in the Philippine Islands is regulated by Act No. 310 administered by a board of three physicians appointed by the Commissioner of Public Health for the Philippine Islands.

The principal features of the law are similar to those of the medical law of New Jersey and other progressive States of the Union.

Examinations are required of applicants for the practice of medicine in the Philippines, and in addition they must exhbit diplomas from reputable medical colleges so recognized by the Board of Health for the Philippine Islands.

It has been very fortunate for the medical profession of the Islands as well as for the people themselves that this up-to-date law was enacted in time to prevent the influx of that undesirable class of so-called physicians from the United States and other countries that would have flocked to the Philippine Islands if the passage of the medical law had been delayed.

There is one medical college in the Philippines, and another in contemplation, as will be seen in another part of this report.

BOARD OF DENTAL EXAMINERS.

The practice of dentistry in the Philippine Islands is governed by a special law, Act No. 593, which requires an examination of all applicants for the certificates of the board of dental examiners. The administration of the law by the board has been very satisfactory.

The Board of Health causes to be made, from time to time, inspections of dental officers for the purpose of securing compliance with the dental law and the observance of dental hygiene.

There is no dental college in the Philippines.

BOARD OF PHARMACEUTICAL EXAMINERS.

As in the case of medicine and dentistry, the practice of pharmacy in the Philippine Islands is regulated by special legislation, Act No. 597, administered by a board of pharmaceutical examiners.

The pharmacy law is modeled after similar laws in the States.

The secret service of the Manila police department has caused, during the past six months, over 50 arrests for violations of the pharmacy law. This procedure has caused an increased respect for the law in many places where violations were frequent before.

There have been, also, several arrests and convictions in the provinces for violations of this act.

There are two colleges in the Philippines in which pharmacy is taught.

INDUSTRIAL TAX.

All persons practicing as physicians, dentists, or pharmacists must pay a prescribed industrial tax in compliance with the internal-revenue law, which also requires the fixing of revenue stamps to all documents of record connected with the actions of the respective boards.

BOARD OF HEALTH LIBRARY.

All the reference books of the library of the Bureau of Public Health have been formally transferred to the Bureau of Government Laboratories, only such as are in daily use being retained on memorandum receipt and placed in the custody of a clerk who acts as librarian for this bureau.

MEDICAL EDUCATION IN THE PHILIPPINES.

SANTO TOMAS UNIVERSITY.

There is only one medical college in the Philippine Islands, the San José Medical College, a department of the Santo Tomás University.

The university was organized as the College of Santo Tomás in the year 1612, and made a university in 1645; however, the medical department was not legally organized until 1876, although medical instruction has been included in the curriculum since 1871.

The medical course, including the study of the collateral branches, extends over a period of seven years, and costs, including the diploma fee, something less than ₱500 for the entire course.

The published list of the medical faculty contains 81 names. The active professors and teachers number about one-fourth of this number.

The clinical and laboratory instruction is given in the San Juan de Dios Hospital.

PROPOSED MEDICAL COLLEGE.

The committee on public policy and legislation of the Philippine Islands Medical Association has recommended that a medical school be opened as a department of the proposed university of the Philippine Islands, and on the 21st of last January the following communication was forwarded, through the honorable Secretary of Public Instruction, to the Governor-General by the committee on public policy and legislation of the Philippine Islands Medical Association:

MANILA, P. I., *January 21, 1905.*

The Hon. LUKE E. WRIGHT,
Civil Governor, Philippine Islands.
(Through the Honorable Commissioner of Education.)

SIR: The Philippine Islands Medical Association, through the undersigned committee on public policy and legislation, have the honor to call the attention of the Government to the fact that one year from next June, and in increasing numbers every year hereafter, between four and five hundred Filipino young men and women will have been educated in the Public schools to a degree which will admit them to the freshman class of the proposed university; that many of the young men approaching this period of their career have probably already decided upon their future calling and it is equally certain that many of them will enter one of the professions.

As it is now deemed of utmost vital importance in the educational world that all professional schools and their faculties should constitute an intimate and integral part of a university and its faculty, and as the first two years' study of branches of several of the professional courses as now constituted can be given with the greatest advantage in the collegiate departments of a university, it is recommended that a board of university regents, either provisional or permanent, be appointed without delay to investigate and report upon the possibility of the early formation of some of the professional and academic courses as parts of a university plan, so as to enable graduates from the public high schools or normal schools to continue the elective studies that pertain to the vocation of their choice as a part of their university and professional education.

As the future school of medicine especially interests your petitioners, attention is called to the well-known predilection of the Filipinos for the profession of medicine and to the almost total absence of educated Filipino medical men in the provinces, where they are more needed than any other class of professional men, whole provinces being without one graduate of medicine. Suggestive staitistics are found in the report of the Philippine Health Board for this year, which shows that 52 per cent of deaths in Manila alone occurred without medical attendance and that 50 per cent of the new born die within a year, and also in the data collected by the Philippine Islands Medical Assocation, as follows:

Total population of the Philippine Islands	7,635,426
Total physicians	360
Percentage of physicians to population	1 to 21,209
Manila:	
Population	219,928
Physicians	217
Percentage of physicians to population	1 to 1,013
Entire provinces including other cities:	
Population	7,415,498
Physicians	143
Percentage of physicians to population	1 to 51,786
Land area, Philippine Islands ......square miles....	115,000
Average population ......to 1 square mile....	67
Average number of physicians, excluding Manila, to 430 square miles	1

Until university graduates can arrange for the advanced or senior college of medical and other professional schools, we would point out that the Government Laboratories and their personnel, together with the staff of the Board of Health, Educational and other Department could furnish, even to-day, the facilities and the faculties for nearly all the fundamental branches taught in the first two years of junior college work, so far as not only a medical but also a general scientific course is concerned; namely, anatomy, chemistry, physiology, pharmacology, pathology, bacteriology, embryology, zoölogy, and botany.

It is again urged in favor of immediate creation of this board of regents that the fifteen months before the graduation of the prepared students above mentioned is none too long for the solution of the multitude of complex questions which will come before them, since they must of necessity invite the various professors to coöperate in regard to establishing their respective professional schools.

As no immediate expense is involved in following this suggestion and, as before stated, the amount of study, investigation, and labor demanded on the part of the proposed board of regents to submit comprehensive and working plans to meet the conditions in these Islands will consume many months, we trust the Government can see its way to make immediate provision against these needs of the future in this direction.

It should not be inferred from the foregoing that there is a demand for American or European physicians in the Philippines. It is almost as difficult for a physician to establish a practice in the Philippines as it is in the United States. Physicians before coming to the Philippines to locate should carefully consider the question. The law regulating the practice of medicine and surgery is in keeping with the standard demanded by the most progressive States of the American nation.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

This branch of the public service has charge of all matters pertaining to the sanitation of seagoing vessels.

The quarantine laws of the United States are enforced here, and the same careful method of disinfection of ships and their fumigation for the purpose of destroying vermin are observed.

The service maintains a laboratory for investigation at 78 Calle Madrid, Manila, and a disinfecting station at Mariveles in Bataan Province, and an administrative office in the custom-house.

The chief quarantine officer of the Philippines is Dr. Victor G. Heiser, who has been appointed to succeed me as Commissioner of Public Health.

QUARANTINE OF SEAGOING VESSELS.

The quarantine of seagoing vessels is principally conducted by the United States Public Health and Marine-Hospital Service; however, the act organizing the municipal boards of health places the matter of municipal quarantine in the hands of the local authorities, where there is no national health officer.

In all larger ports of the Philippines this important branch of public sanitation has been conducted by representatives of the National Quarantine Service in that thorough and scientific manner which characterizes their work everywhere.

IMMIGRATION.

Immigration for the Philippine Islands is regulated by the laws of the United States. Alien immigration has not been an important factor in increasing the population of the Philippines.

During the fiscal year ended June 30, 1904, there arrived in the Philippine Islands, 6,111 immigrants; of this number 351, or nearly 6 per cent, were rejected for medical causes. The rejections were nearly all made because of diseases excludable under the law. Paralytics, idiots, insane, those suffering from leprosy, active syphilis, tuberculosis, and other diseases likely to make the newcomers a burden upon the Government are rejected.

While there has been considerable discussion in the United States as to the advisability of making the immigration laws of Congress apply in their entirety in the Philippines, there has been no objection expressed as to the application of the medical features of the laws which are administered under the supervision of the United States Public Health and Marine-Hospital Service.

The most common disease for which rejection is made is valvular disease of the heart.

The majority of immigrants are laborers, and the occupation which they follow necessarily indicates their rejection. The question of rejecting immigrants should be viewed from two standpoints: First, whether there is any danger of infecting the inhabitants of the Islands with diseases from which they do not now suffer, and, second, from an economical standpoint.

With regard to the introduction of communicable diseases, the ones most likely to be introduced would be trachoma and favus, the latter being a contagious disease of the scalp, and more rarely of the finger nails. Trachoma prevails only to a very limited extent and in a mild form among the Filipinos.

The medical examinations by the officers of the quarantine service have been made of great value in excluding the more virulent cases of these diseases from other countries, which, if they were allowed to enter, would spread very rapidly. Trachoma was made an excludable disease in 1897. The medical profession, and more particularly the physicians in charge of the eye clinics in large cities, urged this step. The contagious character of the disease constantly led to the infection of others. A case of trachoma introduced into a crowded tenement would often cause the disease to spread throughout the whole block. The cost of treating trachoma was becoming a heavy expense to the country. Further investigations showed that 15 per cent of the inmates of public blind institutions in the United States had lost their eyesight through this disease.

Trachoma seems to have had its origin in Egypt, and, with the increased facilities for travel, it has spread throughout the entire world. So contagious is the disease in the land of its origin that but few of the natives escape an attack. Those who have visited Egypt have no doubt observed the unusually large number of blind persons that are seen upon the streets of the cities.

In 1901 positive cases of pulmonary tuberculosis were placed upon the excludable list. This step was denounced as unnecessary and inhuman; however, when it is remembered that the disease is very communicable, and that many of the immigrants would soon become public charges, the wisdom of the course becomes at once apparent.

The enforcement of the medical clause of the immigration law has been of great benefit to the Philippines, both from a humanitarian and practical standpoint.

PLAGUE.

In my first annal report was included a special report on this disease by Dr. Edward L. Munson, captain and assistant surgeon, United States Army, who was at that time detailed as assistant to the Commissioner of Public Health.

Dr. Maximilian Herzog, pathologist and necroscopist, Bureau of Government Laboratories, had also made a careful study of the disease. Dr. Herzog read, at the second annual meeting of the Philippine Islands Medical Association, a paper which is submitted as a part of this report, entitled "Bubonic plague in the Philippine Islands from its first outbreak in 1899, up to 1905," and from which it is noted that during the five years ending with 1904 Manila had over 1,000 cases of plague, while Hongkong had over 5,000.

Of the Manila cases, 632 occurred among 21,230 Chinese, or 29.8 per 1,000 of the Chinese population. Hongkong, with a Chinese population of over 200,000, during the same period had over 5,000 cases, or about 25 per 1,000. This comparison between the Hongkong and Manila figures leads to the surprising revelation that the liability to contract plague and die from it for the period under discussion has been almost identical for the Chinese in these two cities, with a slight difference in favor of Hongkong. On the other hand, the large Filipino population of Manila, a considerable portion of which does not live under any better hygienic conditions than the Chinese, has, per 1,000 been only one-fortieth as liable to contract the disease.

The methods employed by the Board of Health in its warfare against plague are the isolation of those sick with the disease, the protective inoculation of contacts, the cleaning and disinfection of all houses in which plague cases occur, and, when deemed necessary, the remodeling of such houses. Another measure which has been employed on a large scale is the extermination of rats. If plague-infected rats are caught in houses in the neighborhood of plague houses, these houses and their inmates are treated as though cases of the disease had occurred.

In order to prevent the incoming of infected persons or rats from foreign ports, the strictest precautions are observed.

During the period of the greatest prevalence of plague practically all vessels arriving were fumigated once if no more. The Board of Health kept a force of rat catchers along the waterfront to fumigate the small vessels plying in the river and harbor.

The energetic measures which have been carried out more or less intermittently ever since the time when the disease first appeared in Manila have enabled the health authorities to keep the disease under control. In 1902 it appeared as if the plague had been completely suppressed, but in 1903 there was a recrudescence, and in 1904 there were 84 cases. In 1904 the city was free from the disease for several months during the last half of the year, but from September 1, 1904, to March 31, 1905, there were registered 23 cases, of which 22 proved fatal.

Plague of to-day has lost much of the terror that it inspired in times gone by. This is due to the fact that its cause has been accurately determined, and improved methods have been adopted for its extermination and suppression.

CHOLERA.

The cholera epidemic of 1902–3 has passed into history, with its sorrows and its lessons. The tragedy of that period, when 110,000 persons perished, can not be forgotten by those whose duty it was to aid and comfort the people; and the tragedy was made the more heartbreaking by the denial of certain physicians, at the beginning of the epidemic, that cholera existed; the unfounded reports of poisoned wells, which resulted in the detention and trial of several persons, all of whom were acquitted.

Every effort was made to check the epidemic at its outset, but, owing to the impossibility of establishing an absolute quarantine, these efforts only served to delay the disease. So evident was it to the Commissioner of Public Health that all the precautions against the spread of the disease were doomed to failure that he felt compelled to state over his signature to his chief in Washington that nothing could be done except to relieve, so far as possible, the sufferings of the sick and destitute, and that the epidemic would cease only when the vulnerable material was exhausted.

Among the lessons taught by the epidemic are the following:

1. Recognize cholera at the beginning; that is not difficult clinically or microscopically.

2. Acknowledge it frankly; control it in its incipiency by heroic means, if necessary.

3. Provide stores and comforts for the sick and destitute.

4. No method for treatment, so far developed, save one perhaps, is satisfactory. Intestinal antisepsis, by whatever means attempted, including acetezone and silver salts, is most untrustworthy. It is at least probable that the remedies used for antisepsis do harm.

The method of securing from the comma bacillus a product that may counteract the cardiac depressing poison of the disease, as explained by the accomplished Director of the Bacteriological Laboratory, Dr. Richard P. Strong, offers a ground for hope more rational than any curative method known to the writer.

5. In conclusion: While cholera is perhaps the second greatest epidemic scourge known to men, it is one that may be controlled and defined, if not removed, by wise legislation and authority, by the education of the people in sanitation and hygiene, and by the spreading abroad a

knowledge of the necessity of using boiled water and hot cooked food. The wise Chinese know this. They drink tea and eat hot rice, and very few Chinese, proportionately, succumbed to cholera during the recent epidemic; but certain persons attributed this immunity to the use of opium, which is truly a valuable drug in cholera, and many natives assert that they contracted the opium habit in trying to avoid cholera.

As I stated in my second annual report, there is no doubt that quarantine is the most effective measure that can be used against the spread of cholera, but to be of value at all it must be absolute—that is, against the sick and the well alike.

LEPROSY.

The number of lepers in the Philippine Islands has been estimated to be from 10,000 to 30,000. The Bureau of Health has a record of only 3,715, of whom 2,377 are males and 1,338 are females.

Revised statistics have not been received from all the provinces, but it is believed that the total number of lepers in the entire Archipelago, including the Moro Province, will not exceed 5,000.

The type of leprosy prevalent in the Philippine Islands is relatively mild as compared with the character of the disease in many other countries.

The leper problem is far from a satisfactory solution. The segregation of these unfortunates in the colony at Culion will not be unattended by disappointments, and perhaps failures; however, in the course of time they may become reconciled to the isolation.

The opening of the new colony will work the beginning of a new order of things in the care and treatment of these unfortunates, who, notwithstanding their condition, are sensitive and proud, and quick to notice any infringement upon their inherent and inalienable rights.

The following table shows the distribution of lepers by provinces, together with other important facts relative to their condition:

Reports received of lepers living in the various provinces of the Philippine Islands to March 31, 1905.

Provinces.	Race.	Number of males.	Number of females.	Children.		Single.		Married.		Widowers.	Widows.	Total.
				M.	F.	M.	F.	M.	F.			
Abra	Filipinos	6	5	1		4	3	1	2			11
Albay	do	38	26	4	4	25	14	7	5	2	3	64
Ambos Camarines	do	54	15	6		23	7	20	7	5	1	69
Antique	do	60	48	13	14	20	15	21	15	6	4	108
Bataan	do	16	6	1	1	10	1	4	2	1	2	22
Batangas	do	20	11			14	5	5	2	1	4	31
Benguet[a]	do	32	11	1	1	1		21	10	9		43
Bohol	do	78	55	5	3	34	39	35	12	4	1	133
Bulacan	do	25	14			10	7	13	7	2		39
Cagayan	do	50	46			23	16	24	19	3	11	96
Capiz	do	39	16	1		17	12	16	4	5		55
Cavite	do	49	24		2	30	15	16	3	3	4	73
Cebu	do	591	283	93	38	326	187	159	42	13	16	874
Ilocos Norte	do	70	45	2	2	25	24	41	13	2	6	115
Ilocos Sur	do	144	79	11	2	72	44	44	20	17	13	223

[a] Revised reports not received.

Reports received of lepers living in the various provinces, etc.—Continued.

Provinces.	Race.	Number of males.	Number of females.	Children.		Single.		Married.		Widowers.	Widows.	Total.
				M.	F.	M.	F.	M.	F.			
Iloilo	do	94	32	9	1	54	17	22	5	9	9	126
Isabela	do	11	6			3		7	3	1	3	17
La Laguna	do	22	18	1	2	9	5	10	4	2	2	35
Lepanto-Bontoc[a]	do	15	4	1		5	1	8		1	3	19
Leyte	do	57	41	9	7	19	16	26	11	3	7	98
Masbate	do	13	11			7	4	3	4	3	3	24
Misamis	do	39	11	4		17	5	15	3	3	3	50
Moro[a]	Moros	143	77	3	3	86	44	45	18	9	12	220
Negros Occidental	Filipinos	23	8	2	2	9	6	11		1		31
Negros Oriental	do	67	53	4		27	23	35	21	1	9	120
Nueva Ecija	do	36	15	1		16	5	15	5	4	5	51
Nueva Vizcaya	do	2	4			1		1	2		2	6
Pampanga	do	8	7			3	5	4	2	1		15
Pangasinan	do	35	24		1	11	5	18	14	6	4	59
Rizal	do	64	27	2	2	34	10	28	13		2	91
Romblon	do	4	10			1	3	3	6		1	14
Samar	do	143	115		1	43	50	74	43	26	21	258
Sorsogon	do	80	37		1	41	18	35	9	4	9	117
Surigao[a]	do	2	1							2	1	3
Tarlac	do	17	10	1		2	5	13	5	1		27
Tayabas	do	19	7	1		6	4	11	1	1	2	26
Union	do	29	15			10	10	17	3	2	2	44
Zambales	do	35	30			18	14	14	9	3	7	65
San Lazaro Hospital, Manila	do	147	96	23	12	81	50	31	18	12	16	243
Total		2,377	1,338	199	99	1,137	689	873	362	168	188	3,715

[a] Revised reports not received.

TUBERCULOSIS.

Pulmonary tuberculosis has been declared by ordinance in the city of Manila to be an infectious disease, dangerous to the public health, and physicians are required to report in writing, upon blanks furnished by the Board of Health, every case of the disease that comes under their observation.

It is also required that managers, commissioners, superintendents, physicians, or other persons in charge of public or private hospitals, dispensaries, asylums, infirmaries, and wardens of prisons, principals and teachers of public and private schools or convents, and officers of other public institutions in the city of Manila, report in writing every person afflicted with tuberculosis who is in their care.

It is the duty, as defined by ordinance, of every person sick with tuberculosis, and of every person in attendance upon any person sick with this disease, and of the authorities of public and private institutions to observe all sanitary rules and regulations of the Board of Health, and all city ordinances directed against the spread of pulmonary tuberculosis and other infectious diseases.

During the period from September 1, 1904, to March 31, 1905, there were 750 deaths from tuberculosis in the city of Manila.

Bilibid prison has established a special hospital for this class of patients. The San Juan de Dios Hospital maintains a large isolation ward for consumptives.

Notwithstanding the important work which has been done, very little progress toward lessening the disease has been made. The great mass of the people have not been reached, and the best way, or, in fact, any way, to disseminate among them the knowledge of how to prevent this dread disease is still to be found.

AN ORDINANCE AGAINST SPITTING IN PUBLIC PLACES.

In view of the fact that only a small fraction of the inhabitants of the Philippine Islands live in Manila, and of the almost absolute hopelessness of enforcing a more stringent ordinance, the Board of Health, in preparing an ordinance against expectorating in public places, decided that it would be advisable to deal only with the most urgent features of the question; therefore, a short ordinance was presented to the effect that:

> In order to prevent the spreading of pulmonary tuberculosis and other infectious diseases, all persons are forbidden to spit or expectorate, or deposit or place any sputum, saliva, phlegm or mucus upon the floor of any church, schoolhouse, theater, or other place of public assembly, or upon the inside furnishings or equipments, or upon any place upon the outside, or upon any platform or any street car or public conveyance, while the same is in use upon any of the streets or highways in the city of Manila, or in any manner defile or pollute the floor furnishings, equipments, or platforms, or any street car or public conveyance, while in use upon any of the streets or highways of said city.

This is but the beginning of what for many years will be an unavailing warfare against the expectorating nuisance.

INTESTINAL AMŒBIASIS (AMŒBIC DYSENTERY).

This disease, the statistics of which are given elsewhere, has been very prevalent during the past year. It numbers among its victims all ages, all classes, and all races, its favorite victims being unacclimated adult Americans. It causes more than 50 per cent of invalidism in the public service, and must be reckoned in profit and loss accounts of business enterprises, and it enters as an important factor in the Army hospital reports.

Water is the principal source of infection, and the majority of cases can be traced directly or indirectly to the use of unsterilized water. The city water of Manila contains a large number of protazoa and amœbæ, not distinguishable from those found in intestinal ulcers of dysentery. The danger from the use of unsterilized water has become generally recognized by the public, and an effort has been made to overcome this danger. Much of the so-called distilled water in the city is either not distilled at all or stored in reservoirs which are not properly cared for. Sometimes sterilized water may be contaminated by handling, and thus convey the disease.

The surfaces of uncleaned green vegetables and fruits are another important source of infection.

Intestinal amœbiasis has been the subject of careful study and investigation by Dr. W. E. Musgrave, pathologist of the Bureau of Government Laboratories. The results of his research work were published in October, 1904, in Bulletin No. 18, Bureau of Government Laboratories, which may be had by making application to the chief clerk of that institution. Dr. Musgrave is a recognized authority on this disease.

On November 1 the Secretary of the Interior addressed the following letter to the Commissioner of Public Health:

> **Sir: I have the honor to inform you that I have appointed the following committee to consider methods of combating amœbic dysentery, and to recommend to the Board of Health an ordinance containing such provisions as the committee deems likely to be of practical use to this end: Maj. E. C. Carter, Dr. Richard P. Strong, and Dr. W. E. Musgrave. The committee will meet at the call of the chairman.**
>
> **Very respectfully,**
>
> **Dean C. Worcester,**
> ***Secretary of the Interior.***

The committee met and reviewed the existing laws and ordinances and those proposed in the new sanitary code for the city of Manila, and decided that the question had been fully covered; but recommended that a special inspector be designated to examine, at such times as he sees fit, all places where, and apparatus whereby, waters, beers, and other drinks are manufactured.

The two important things that should be borne in mind are the methods of prevention and the importance of an early recognition of the disease after infection.

BERI-BERI.

This is a common disease in the Philippine Islands, particularly among the poorer classes. The disease prevails very generally in provincial jails. It attacks all classes, but Filipinos and Chinese are more susceptible than Americans and Europeans.

Plenty of sunlight and fresh air, with cleanliness, and a nitrogenous diet may be considered specifics at least in preventing the disease.

Beri-beri as a factor in infant mortality, and as a probable factor in insanity, is worthy of the closest study and investigation.

MALARIAL DISEASES.

Accurate statistics of the prevalence of malarial diseases in the Philippine Islands are not available, but according to the observations of American and European physicians practicing in this country, malaria is by no means as common a disease as it is in many parts of America and Europe; however, where the infecting mosquitos are found in large numbers, the disease is generally prevalent.

The natives know the value of quinine and laxatives, but are extremely skeptical in reference to the methods of infection. They are not ready yet to believe so serious a charge against the mosquito. In the interior of the Islands, especially in the southern groups, the disease is of a rather severe type.

During the period of seven months covered by this report the record of deaths kept by this Bureau for the city of Manila shows that there were 110 deaths ascribed to malarial causes.

TYPHOID FEVER.

This disease can not be classed as a common disease in the Philippines, though during the seven months ended March 31, 1905, the death records of the city of Manila show 88 cases.

It is classified by the Board of Health as an infectious disease and all houses in which cases occur are disinfected, particular attention being paid to possible sources of infection. As the preventable nature of the disease becomes more generally known, there will be fewer cases.

TRAINED NURSES.

The day is not far distant when the "cirujano ministrante" with his imperfectly defined status and superficial training must give way to the scientifically trained nurse, who will not assume a hostile attitude toward the menial, unpleasant services often required of the profession. Only in this way can the insanitary "muchacho" be eliminated from the sick room, where his presence under the present system is indispensable. Except in the larger hospitals under the care of Sisters of Charity, the trained nurse was unknown in the Philippine Islands until the advent of the Americans.

A training school in connection with a suitable hospital in which young men and women may be prepared for this useful and honorable profession is one of the needs of the country.

MARRIAGE STATISTICS.

The ordinance defining the duties of the Board of Health in the city of Manila makes it obligatory that the said board keep an accurate record of all marriages celebrated within the limits of the city. To comply with this requirement, a chapter on marriages was incorporated in the proposed sanitary code making it the duty of all justices of the peace with whom certificates of marriages are filed in compliance with General Orders, No. 68, series of 1899, issued by the United States military governor, to make monthly reports to the Board of Health for the Philippine Islands on forms prescribed by the Commissioner of Public Health.

The Board of Health is also given authority to call for such reports, from persons who solemnize marriages, as may be needed for statistical purposes.

According to the present marriage law, any unmarried male of the age of 14 years or upward, and any unmarried female of the age of 12 years or upward, and not otherwise disqualified, are capable of consenting to and consummating marriage on condition that the consent of the father, mother, or guardian, or of the one having the charge of said persons, if any such, be given, if the male or the female be under 21 years of age. The entire law, while very liberal, has proved satisfactory. No absolute divorces are granted; however, marriages may be annulled for causes enumerated in the law. Jurisdiction in cases of nullity is vested in the Courts of First Instance.

Upon the question of the advisability of granting absolute divorce, there is much difference of opinion with which the sanitary authorities are not directly concerned.

It is hoped that the next annual report will present the required statistics.

BIRTH STATISTICS.

It is practically impossible to collect accurate birth statistics in the provinces under the present system. The advent of a new baby in a family is an event to be expected, and its arrival is not considered exciting enough by the Filipino to justify any special effort in the interest of statistical information.

Under Spanish rule these matters were left entirely to the churches, to be recorded in connection with the sacrament of baptism, which was an event in the life of every person in the Philippine Islands who had been brought under the influence of the church.

Even in the city of Manila, it has been very difficult to present more than an estimate of the number of births. Repeated efforts have been made to obtain accurate reports, but the result is far from satisfactory. When the returns for the fiscal year are complete, it will be possible to submit a fairly accurate estimate based upon the number of births that have been reported, the death rate among children, and certain other information that will be presented by the completed statistics. I shall leave these deductions for my able successor, who no doubt will give the matter the attention it deserves.

DEATH RATE IN MANILA.

For the seven months ending March 31, 1904, the death rate among the permanent population of Manila by races, is as follows:

Race.	Deaths.	Annual average per 1,000.
Americans	24	9.42
Filipinos	5,904	49.10
Spaniards	32	21.80
Other Europeans	8	12.33
Chinese	204	16.55
All others	12	23.10
Total and average	6,184	44.56

The figures for the remaining five months will be compiled by my successor and presented as a complete statement for the year.

The city death rate for last year reached 49.01 per 1,000 while for the period covered by the above table the rate is 44.56, a difference of 4.45 per 1,000 in favor of the present year.

The lowest death rate was in San Nicolas district, which with a population of 53,573, had during the seven months only 563 deaths, or an annual rate of 18.13 per 1,000. The highest has been in the district of Tondo, which, with a population of 39,045, has had 1,695 deaths, or an annual death rate of 74.79 per 1,000. The figures here given include transients. The low death rate for San Nicolas district, which is far from being the most healthful district in the city, may be explained by the fact that the greater number of its inhabitants are unmarried Chinese, thus eliminating the factor of infant mortality.

The annual death rate, including transients, based upon the mortuary tables for the seven months ending March 31, 1905, by districts, is as follows:

District.	Death rate.	District.	Death rate.
San Nicolas	18.13	Sampaloc	61.08
Tondo	74.79	Intramuros	30.98
Quiapo	49.95	Ermita, Paco, and Malate	60.80
Santa Cruz	57.16		

Station L, health district No. 7, includes Ermita, Malate, Paco, where most of the American population reside, and also the districts of Santa Ana and Pandacan. The infant mortality among natives of Paco, Santa Ana, and Pandacan is especially large, and is the principal factor in the unfavorable showing made by this district.

INFANT MORTALITY.

The table of deaths by ages, including transients, for the period of this partial report, is as follows:

Ages.	Number of deaths.	Ages.	Number of deaths.
Under 30 days	633	40 years to 50 years	322
30 days to 1 year	2,699	50 years to 60 years	240
1 year to 2 years	297	60 years to 70 years	183
2 years to 5 years	218	70 years to 80 years	124
5 years to 10 years	71	80 years to 90 years	69
10 years to 15 years	64	90 years to 100 years	42
15 years to 20 years	212	100 years and over	11
20 years to 25 years	247	Unknown	17
25 years to 30 years	374		
30 years to 40 years	422	Total	6,245

Stillbirths, 173.

From these figures it will be seen that of the 6,245 deaths, 3,847 occurred among infants less than 5 years of age.

The three periods of the highest mortality, arranged according to numerical importance, are; 30 days to 1 year, 2,699; under 30 days, 638; 30 years to 40 years, 422.

It will be seen that the period from 30 days to 1 year is the critical period in the life of children.

DEATHS OF TRANSIENTS.

The number of transients in the city of Manila in the mortuary statistics is eliminated from the city death rate, as it is not properly chargeable thereto. Manila is the hospital center for the entire Archipelago—a fact which will explain the seemingly large number of this class of deaths. Many patients are brought in to the hospitals as a last resort.

Notwithstanding the practice of counting out transients in figuring the mortality rate of the city of Manila, there are still many deaths of this kind recorded as "permanents" which are necessarily charged to the city death rate. Deaths among students are usually recorded as belonging to the "permanente" class.

It may be observed from the statistics that deaths among transients are generally due to acute diseases, the exceptions being the deaths of those who are brought to the Hospital San Juan de Dios in the last stages of a fatal disease.

DEATHS WITHOUT MEDICAL ATTENDANCE.

The tabulated statistics will show the number of deaths in the city of Manila without medical attendance. This condition of affairs can not be ascribed to any single reason, but may be sought for in many, among which is the racial tendency to put off things until a more convenient time. This trait, commonly called the "mañana habit," is responsible also for many other unsatisfactory conditions in the Philippines. Another factor is the prevailing idea that physicians are not to be disturbed during meal time, the afternoon siesta, or at night after the hour of retirement. The inherent fatalistic beliefs and racial indifference of the natives must also be reckoned with in considering this question. The birth and the death of a child are two of the most commonplace events pertaining to family life, and in many instances the medical man has no part in either.

The Board of Health makes ample provisions to meet all demands for free medical attendance, and many lives are thus saved annually.

When I assumed the duties of Commissioner of Public Health nearly three years ago, the number of deaths without medical attendance exceeded the number with medical attendance, but the statistics from September 1, 1904, to March 31, 1905, a period of seven months, in a total of 6,245 deaths, show that 3,277 deaths were with medical attendance and 2,968 were without medical attendance.

ILLEGAL MEDICAL PRACTITIONERS.

The Board of Medical Examiners, under the provisions of Act No. 310, regulating the practice of medicine and surgery in the Philippine Islands, has practically reduced the illegal medical practice to a few "mediquillos" who carry on their business so guardedly as to escape the law; to a few old women who practice midwifery, and to the Chinese, who have been tolerated so long as they have confined their practice to their own race. Most of these Chinese doctors have drug stores which they conduct under the restrictions imposed by Act No. 597, regulating the practice of pharmacy in the Philippine Islands, and administer their remedies in connection with the practice of "Chinese pharmacy."

It is almost impossible to differentiate the illegal Chinese doctor from the legalized Chinese druggist, especially when there is a prospective charge of practicing medicine illegally.

The medical act has proved to be a very efficient protection against a class of parasites styling themselves "doctors," that would curse Manila by their presence if the legal restrictions were removed. Chinese "practicantes" limit their efforts to the practice of Chinese medicine.

CHINESE MEDICINE.

At the meeting of the Philippine Islands Medical Association, Dr. Tee Han Kee, an educated Chinese physician, read an interesting and scholarly paper on "Chinese medicine," in which he sketched the history of medicine as practiced by the Chinese from its origin, 3,000 B. C., to the present time.

The first period, from the time of Emperor Sinlong down to Confucius, embraces about 2,280 years; the second period, of about 1,800 years, dates from Confucius to Emperor Shunte, the first Emperor of the present dynasty; the third period, covering about 268 years, began with Emperor Shunte and extends down to the present time.

The first period is sometimes referred to as the "dark age," the second as the "progressive age," and the third as the "retrograding age."

The therapeutic writings of Emperor Sinlong, the second of the dynasty of the first rulers, are still standard text-books.

Medicine attained its highest development in China during the second period, which developed many physicians and surgeons of renown. During the "progressive age" many important operations in surgery were undertaken, as, for instance, amputation of the arm at the shoulder joint under anæsthetics.

The physicians of that day were sufficiently advanced to give mercury in syphilis, and practice smallpox inoculation. This method of protection from smallpox still prevails in many parts of China, although the more desirable practice of vaccination has been introduced from Europe, and practiced to a considerable extent.

Inoculation was performed in four different ways—by wearing the clothing of smallpox patients; by inoculating the contents of pustules of persons suffering from smallpox into the mucous membrane of the nose; by blowing pulverized scabs taken from infected persons directly into the nostrils of the person to be inoculated; and by inserting high up into the nose fresh scabs which were retained for five days by tampons of moist cotton. The latter method is considered the best, and is at this time in general use over a large part of China.

During the last 268 years, or the "retrograding age," medicine in the Empire of China has almost become a lost "art." There are now no schools, and medical instruction is obtained chiefly through apprenticeship to instructors, who, for fear of competition, will not give his disciple the benefit of all his knowledge and experience, reserving the better things for himself in order that he may always know more than his pupils.

The modern practice of Chinese medicine is far enough removed from all that is scientific to satisfy even the most ardent Christian Scientist. Some of their remedies are as absurd as they are ineffectual; for instance, a piece of paper on which has been drawn a few fancy lines and strokes is burned, and the ashes taken with tea to dislodge bones from the throat, or for driving away the besetting devils in case of high fever.

In many diseases they use more substantial remedies made from spiders, cockroaches, human urine, and a thousand other things equally as disgusting. Some of the better class of practitioners resort to infusions or teas of certain medical plants of real therapeutic value, chiefly those possessing purgative and diuretic properties. This system ignores the teachings of pathology and bacteriology. Diagnosis of diseases, if it may be so called, is made almost entirely from pulse beat. A Chinese doctor may feel the pulse of one or both wrists for hours, or until both he and his patient fall asleep if the case presents any complications.

Pregnancy is determined and the sex of the child foretold by the character of the pulse. If a mistake is made it is readily explained by enumerating a long list of complications which obscured the diagnosis.

It is contrary to the Chinese idea of hygiene to give a patient a bath, or to open a window to admit fresh air in his room, for fear of increasing the disease. In the Chinese hospital in this city this line of treatment is adhered to.

It is interesting to observe that, notwithstanding the innate dislike which Filipinos have for the Chinese, they have readily accepted their medical teachings, to which they still adhere with a zeal and fidelity worthy of a better cause.

Disease is classified as "hot" or "cold." A "hot" disease requires a cooling medicine, and a "cold" disease calls for a heating remedy; thus it will be seen that they have to their credit the one fact that their "system" of medicine has at least escaped the fallacies of homeopathy.

Heating drugs must be gathered during the daytime during the summer months when the weather is warm, and must be prepared by the aid of fire; while, on the other hand, cooling drugs require to be gathered at night during the winter, in order that they may possess the proper therapeutic value.

One of the principal text-books of the Chinese medical student is called "Eighty-one Difficulties," the same being a treatise on diagnosis as indicated by the pulse.

When it is difficult to make a diagnosis, a Chinese doctor will feel the pulse of the radial artery for a whole day at a time, by this means becoming acquainted with all the diseases from which the patient may have suffered during his whole life. Their ideas of anatomy and physiology are crude and without system.

The Chinese race, with their devotion to the past, their reverence for the knowledge of the ancients, their love for the literature of their country, their extreme conservatism, and the tenacity with which they cling to superstitious traditions, will be slow to adopt scientific medicine, but the day will come when the truth shall prevail in China and among Chinese, and all the world over.

The leaders are not yet ready for a change. The Chinese colony of Manila has men of ability and character, but these same men are in many cases patronizing this class of illegal but tolerated practitioners.

Dr. Tee Han Kee, a regular, ethical, scholarly, Chinese physician, is employed by the Board of Health in the capacity of municipal physician for the Chinese. His work as a physician and as a sanitarian has been characterized by ability, judgment, and loyalty.

CHINESE DENTISTRY.

The Chinese consul has been very much interested in an effort to secure a modification of the present dental law so as to permit Chinese dentists to practice their art among Chinese residents of these Islands, as are Chinese druggists, basing his claim upon the fact that the practice of dentistry like the practice of medicine, has not attained the status of a profession in China, and that Chinese practitioners are not prepared to meet the requirements of the dental law, which prescribes that all applicants must pass a satisfactory examination in anatomy, physiology, histology, physics, chemistry, metallurgy, dental anatomy and physiology, dental materia medica, therapeutics, dental pathology and bacteriology, orthodontia, oral surgery, operative dentistry, and prosthetic dentistry.

It would undoubtedly be class legislation to amend the law in favor of any particular race. The only argument in favor of granting the request is the fact that in China, except in the foreign colonies, no legislative restrictions are placed upon foreigners who engage in the practice of medicine or dentistry.

CHINESE DRUGGISTS.

Act No. 597, regulating the practice of pharmacy in the Philippine Islands, provides that the Board of Pharmaceutical Examiners shall issue a certificate as Chinese druggist to any person 21 or more years of age, and of good habits and moral character, who shall submit a certificate from the Chinese consul at Manila that he is competent and qualified to conduct a drug store in acordance with the laws and customs of the Chinese Empire. The Board, however, may demand such other evidence as to the applicant's fitness to conduct such a store as it may deem advisable.

Since druggists are recognized as legal practitioners of medicine in the Chinese Empire, and the law permits druggists thus registered to practice in accordance with the laws and customs of their country, the Board of Medical Examiners has not attempted to enforce the law regulating the practice of medicine and surgery among these people.

The law has not granted concession to any other nationality, nor has any been requested. Chinese are not slow to act, and they are constantly on the alert for business opportunities, whether they are to be secured through legislation or otherwise.

GENERAL SANITATION IN THE PROVINCES.

This work is conducted by the local health authorities in accordance with Acts Nos. 307 and 308, organizing provincial and municipal boards of health and fixing their powers and duties.

About three-fourths of the authorized number of medical inspectors are detailed for provincial duty. The special reports of the provincial medical inspectors are herewith appended.

Monthly provincial reports made up from monthly municipal reports are submitted by presidents of provincial boards of health. These reports are made pro forma so as to be readily available for statistical purposes, and when received in the office of the secretary of the central Board of Health, they are carefully examined, and, if found correct, transferred to an annual summary form, province by province. If they are found to be incorrect, the discrepancies or omissions are noted, and the report returned for correction. This system of careful checking involves a great amount of work, but experience has shown that it is the only way by which the principle of accuracy—the indispensable requisite of vital statistics—can be maintained.

CEMETERY DISPUTES AND THE CLOSING OF CHURCHES AGAINST PUBLIC FUNERALS.

The closing of cemeteries is governed by municipal ordinances, in accordance with the provisions of the Municipal Code. Health boards can exercise advisory powers only. Many disputes have arisen as a result of religious enmity incidental to the Aglipay movement, or the establishment of the Independent Filipino Catholic Church. These disputes, in many cases, have been referred to this office, but as they involved the question of religious prejudice it has been advised that they be taken to the provincial boards or to the courts for settlement.

Act No. 469, entitled "An act authorizing provincial boards to hear and determine controversies arising in municipalities by reason of municipal ordinances regulating religious processions and the closing of municipal cemeteries," provides that—

> In all cases of municipal ordinances regulating religious processions or closing municipal cemeteries, an appeal may be taken from the enforcement of such ordinance or ordinances to the provincial board of the province by the persons interested therein. The provincial board, upon a sufficient notice to the interested parties and upon hearing, shall confirm, modify, or nullify such ordinance or ordinances as it may deem best for the public interest, its decision in the matter to be final: *Provided, however,* That where such ordinance or ordinances have been enacted not for the public good, but in bad faith and because of prejudice or hatred, the Court of First Instance having jurisdiction of the municipality and province shall have power, upon complaint properly filed, to enjoin the enforcement of such ordinance or ordinances in whole or in part because of such bad faith, prejudice, or hatred only. Upon the questions involving the public health, the opinion of the president of the provincial board of health shall be requested by the provincial board, but his opinion shall be advisory only.

In cases where municipal councils have closed cemeteries on the recommendation of the local health authorities, careful investigation has usually demonstrated the correctness of the position taken by the health boards, although, in the circumstances, it is reasonable to assume that there were other factors which to a large extent determined the action of the local sanitary authorities.

The Board of Health has submitted to the Commission a draft of an act for the regulation of cemetery matters and the question of public funerals.

In every case in which it was alleged that the local health authorities had made false representations in reference to the condition of the cemeteries, this office, upon investigation, found that the sanitary conditions fully justified their action. It is probable that more zeal than tact was displayed in their recommendations, but the fact remains that the cemeteries were not in a sanitary condition.

Two of the principal cases have been in Cavite and Batangas. The following reports of Dr. Arlington Pond will give a clear idea of the situation in these two provinces:

MANILA, P. I., *August 27, 1904.*

The COMMISSIONER OF PUBLIC HEALTH, *Manila, P. I.*

SIR: In compliance with special orders No. 125, office of the Board of Health for the Philippine Islands, I have the honor to submit the following report of an inspection made of the sanitary condition of the old Caridad Cemetery at Cavite, P. I., to ascertain if its sanitary condition is such as to allow it to be reopened for interments.

This cemetery is about a mile and a half from the boat landing, and while it is not in the crowded part of the town, there are people living in close proximity to it. Its dimensions are approximately 300 by 250 feet. In this space bodies have been buried for nearly forty years. This means that old bodies were being constantly exhumed to make place for new ones, and the old ones were sent to the depository or bone pile, which is a custom to be discouraged and not encouraged.

Looking the ground over carefully it was seen that vacant spaces for new bodies are few and far between, and there are only twenty empty niches in the wall.

As the cemetery is filled to its full capacity, and as the custom of removing bodies to make space for new ones is not in accordance with our American ideas and should be discouraged; as the cemetery is not in good sanitary condition, there being a very perceptible odor of decaying animal matter, and as the new cemetery on the beach is excellently located and has plenty of room in which to expand, I recommend that the request to reopen this cemetery be disapproved.

Very respectfully,

ARLINGTON POND,
Medical Inspector, Board of Health.

MANILA, P. I., *September 5, 1904.*

The COMMISSIONER OF PUBLIC HEALTH, *Manila P. I.*

SIR: In compliance with special orders No. 136, office of the Board of Health for the Philippine Islands, I have the honor to submit the following report:

In 1902, during the cholera epidemic, by order of the board of health, no funeral services were allowed to be held over dead bodies in the churches of Batangas Province. In most cases the funeral services were held in the churches, but the bodies went directly from the house to the cemetery, and in many cases services were held there.

This law was necessary and its wisdom at that time was not questioned by the people. The scarcity of doctors in the province made it impossible to distinguish deaths due to cholera from those due to other causes.

This law has never been rescinded and even at the present time no funerals are being held from the churches. The church authorities, supported by some of the Catholic residents of the towns of Batangas and Lipa, wish to get this order rescinded and to be allowed to return to the old order of things as before the cholera epidemic, and have forwarded a petition to that effect signed by thirty-eight residents of Batangas.

The provincial and municipal health authorities for various reasons, enumerated by indorsements on the petition, are opposed to the granting of this request, the sum total of their reasons being that they think it is better for the health of the province not to return to the old way. In this they are supported by a large proportion of the Catholic residents of the town of Batangas, who, after the arrival of the undersigned, drew up a counter petition signed by over fifty prominent people of the town, which is hereto attached. The curé of Batangas, in an interview with the undersigned, stated that they based their petition on the following facts:

1. That the province was free of epidemic diseases.
2. That the burial of the dead from the churches was an old custom and very dear to the people.
3. That the province of Batangas, as far as he knew, was the only one in the Islands forbidden that custom.

Furthermore, he stated that the church would give all assistance in its power to the board of health, and even agreed to furnish a building to be used as a morgue where bodies could be inspected by the municipal doctor before being allowed to go into the church.

The president of the town was next interviewed. He expressed great surprise to think that the wisdom of the present law should be questioned, although he admitted that he had heard of the petition of some of the residents, but that the petitioners represented only a small percentage of the Catholics of the town. Personally he was satisfied with the present status of things and he was sure the majority of the people of the town also were.

Governor Aguilar made practically the same statement as the president, but in addition he wished it understood that the question of religion did not enter into the controversy on the part of those opposed to the rescinding law; that they were all good Catholics and there was not a follower of Aglipay in the province, and that the priests were opposed to the law because it decreased their revenues.

The provincial treasurer and the superintendent of schools (the supervisor had already placed himself on record as being in favor of the present law), two Americans in close touch with the natives, said that the whole trouble was due to a very small percentage of the people led by the priests of Batangas and Lipa, but that in the other towns of the province everybody was apparently satisfied. They both assured the undersigned that the question of religion did not enter into the feelings of the people who opposed the rescinding of the law.

Many other people, both natives and Americans, were seen regarding this matter and the majority of them said they had heard of the matter but had never given it any thought.

If what the people interviewed said is true, the priests and their followers are very much in the minority, though the undersigned in all his experience in health work in the Philippines has never known so many people anxious to support the laws of the Board of Health where those laws interfered with a church custom.

If it resolves itself into a question of sanitation pure and simple, everything points favorably to a continuation of the present law. From a sanitary standpoint there is nothing in favor of having funerals from churches. The lack of doctors makes it impossible to ascertain the causes of death in all cases, and the lack of undertakers makes it impossible to have bodies properly coffined.

There are only three towns in the province with doctors as presidents of the boards of health. These are Batangas, Lipa, and Taal, and in these towns all bodies could be examined, and if deaths were due to noncontagious diseases, funerals could be held from the churches. In all other towns diagnoses are made by the municipal doctors. But to make exceptions of these three towns would make trouble. There must be some general law to cover the whole province. Since cholera times there have been no funerals from the churches. This in itself is a good indication of the feelings of the people or else a good example of the discipline and strength of the provincial government.

Bodies properly coffined, unless they are cases of smallpox, plague, cholera, leprosy, or some other contagious or infectious disease, can cause no damage, but if this question is to be settled solely from a sanitary standpoint, it will be settled in favor of the continuation of the present law.

Very respectfully,

ARLINGTON POND,
Medical Inspector, Board of Health.

These questions in Manila have never given any special trouble. They are fully covered in the present city ordinances and in the proposed sanitary code.

The Board of Health for the Philippine Islands has drawn and submitted to the Commission a draft of an act for the regulation of these vexatious questions, as follows:

AN ACT REGULATING THE ESTABLISHMENT AND MAINTENANCE OF BURIAL GROUNDS AND CEMETERIES, AND COVERING PUBLIC FUNERALS AND THE DISPOSAL OF THE DEAD IN THE PHILIPPINE ISLANDS, OUTSIDE THE CITY OF MANILA.

By authority of the United States, be it enacted by the Philippine Commission, that:

SECTION 1. This act shall apply and be effective throughout the Philippine Islands, except in the city of Manila, which shall be governed by the provisions of the Sanitary Code of Manila, as provided for in Act Numbered Eleven hundred and fifty.

SEC. 2. Except in the city of Manila, which is not included in this act, it shall be unlawful in the Philippine Islands for any person or persons, or for any order or society of persons, or for any corporation or corporations, or for any church or other organization whatsoever, to bury or inter their dead, or use any land or lands, in any way whatsoever as a burial place or as a temporary or permanent place of interment or disposal of such dead, within fifty meters from either side of any river or rivers, or any water, or within fifty meters of any spring, well, or other source of water supply: *Provided,* That the Board of Health for the Philippine Islands may, upon the recommendation of the local health authorities, authorize the continuance of any burial ground, cemetery or other place for the temporary or permanent disposal of the dead not meeting the requirements of this section, which may have been established prior to the passage of this act.

SEC. 3. After the passage of this act no burial-ground or cemetery shall be authorized or established which shall not be at least twenty-five meters from any dwelling house: *Provided,* That abandoned houses, houses used by employees or attendants of the cemetery, houses used for administrative or other necessary purposes connected with the cemetery, shall not, in the meaning of this act, be considered as dwelling houses: *And provided further,* That it shall be the duty of the person or persons, or of the order or society of persons, or of a corporation or corporations, or of a church or other organization establishing such cemetery, to maintain an open space, unobstructed by habitations or other structures, except those for ornamental purposes, and except as hereinbefore provided, of at least twenty-five meters on all sides of said burial ground or cemetery.

SEC. 4. Subject to the approval of the Board of Health for the Philippine Islands, the council of any municipality may set apart any tract of land, or part thereof, belonging to the municipality, as may be deemed advisable for a municipal burying ground, and may designate any portion thereof as a place of burial for the poor, and no charge shall be made therefor; and the council may lay out the remaining unoccupied portion in suitable lots, with the necessary paths, avenues, or other reserved spaces, and may plant and embellish the same with trees, shrubs, and flowers and other rural ornaments; and the council, or any person designated by it, may grant and convey, for and in the name of the municipality, by deed or other legal conveyance, lots in such burial-ground or cemetery, to be used for the burial of the dead, and on which to erect tombs, cenotaphs and other monuments. Land so acquired shall be exempt from taxation, attachment, or levy of execution.

SEC. 5. The proceeds realized from the sale of such lots shall be deposited in the municipal treasury and kept separate from other municipal funds, and may be disbursed, by order of the municipal council, upon properly prepared and signed vouchers, for the purpose of keeping in order, improving, and embellishing such burial grounds or cemeteries.

SEC. 6. Municipal councils may make, alter, amend, or repeal, when made, such by-laws and regulations, except upon sanitary questions, not inconsistent with law, as may be neccessary for the government and administration of such burial grounds or cemeteries, and such by-laws and regulations shall be recorded by the municipal secretary, and certified copies filed with the local board of health and with the Board of Health for the Philippine Islands. No by-laws or regulations shall be made to restrain or interfere with any person in the full exercise of his religious sentiments respecting the burial of the dead, nor shall any municipality in prescribing rules and regulations for a burial ground or cemetery make any discrimination against the burial of bodies on account of race, nationality, or religion.

Sanitary by-laws and regulations shall be made by the local authorities, and approved by the Board of Health for the Philippine Islands.

SEC. 7. Municipal councils may designate the municipal board of health or any member thereof to act as its representative in the administration of municipal cemeteries, and such organization or officer shall perform the duties thus imposed without extra compensation.

SEC. 8. Municipal councils may take and hold grants, gifts, or bequests or property or money, provided that the terms and conditions of same are not in conflict with law nor detrimental to the just and proper administration of such burial grounds or cemeteries, and apply the same for the improvement or embellishment of municipal burial grounds or cemeteries or any part thereof, or for the erection, preservation, or removal of monuments, or other structures in or around said burial grounds or cemeteries, according to the terms of the grant, gift, or bequest, and in cases where such grants, gifts, or bequests have been made without terms or conditions, they may be applied for such improvement of the municipal burial grounds or cemeteries as the council may deem advisable.

SEC. 9. Municipalities shall have authority to acquire sites for burial grounds or cemeteries by purchase, or by condemnation in the manner prescribed by law, and such land, when acquired, shall be exempt from taxation, attachment, or levy of execution during the time it shall be used as a burial ground or cemetery.

SEC. 10. All questions of ownership, disputes of title, breach of contract, and other controversies or disputes, except those which refer to sanitation, shall be decided by courts of competent jurisdiction: *Provided*, That such questions, controversies, and disputes can not be satisfactorily adjusted by administrative action.

All questions of sanitation shall be submitted, through the local board of health if there be one, and if there be no local board of health, through the municipal secretary, to the Board of Health for the Philippine Islands, the decision of which shall be final.

SEC. 11. Any burial grounds, cemeteries, or other places for the burial or interment of the dead, not a municipal cemetery, may be enlarged, with the approval of the municipal council, by making application through the local board of health, or to the central Board of Health for the Philippine Islands, and complying with the requirements of the law in reference to the establishing of burial grounds and cemeteries. Municipal cemeteries may be enlarged or extended by the municipal council in the same manner as provided for their establishment.

SEC. 12. The Board of Health for the Philippine Islands shall have authority to close any burial ground or cemetery, whether conducted by municipalities, societies, corporations, churches, or otherwise, whenever it shall have been adjudged that such cemetery is a menace to the public health. Any municipal council, with the approval of the Board of Health for the Philippine Islands, may close any cemetery within the limits of the municipality over which it has jurisdiction, and may also cause the removal of such cemeteries when absolutely necessary: *Provided,* That no cemetery shall be removed without the approval of the Board of Health for the Philippine Islands and of the Secretary of the Interior.

SEC. 13. Municipal councils shall grant a permit to any person, society, corporation, or church, or other organization, to establish and maintain burial grounds and cemeteries, upon the presentation of an application approved by the local board of health and by the Board of Health for the Philippine Islands, filing, with the municipal council, an approved bond in the sum of five hundred pesos, Philippine currency, to be renewed annually, for the faithful compliance with the law, and the maintenance of such burial ground or cemetery in clean and sanitary condition, and for each and every permit thus issued, a fee of not to exceed twenty-five pesos, Philippine currency, may be charged and collected: *Provided,* That no fee shall be collected nor bond required for the enlargement or extension of any cemetery established prior to the passage of this act.

SEC. 14. When practicable, graves shall be dug to a depth of at least five feet, so there may be at least three feet of earth covering bodies that have been inclosed in coffins, boxes, or other solid receptacles, and at least four feet of earth covering uncoffined bodies.

SEC. 15. No decision or action of any provincial board of health or any municipal board of health, except in cases of emergency, affecting the question of burial grounds, cemeteries, or disposal of the dead, shall be valid until the same is approved by the Board of Health for the Philippine Islands.

DISPOSAL, EXHUMING, AND SHIPMENT OF THE DEAD.

SEC. 16. Except in cases of emergency, no corpse shall be buried without a certificate of death. If there has been a physician in attendance upon the deceased, it shall be the duty of the said physician to furnish the required certificate. Should no physician or medical officer be available, it shall be the duty of the municipal president or municipal secretary to furnish the required certificate.

SEC. 17. Death certificates shall contain the name of the deceased, age, sex, nationality, occupation, whether married or single, widowed or divorced, date of death, place of death, cause of death when known, duration of illness, residence of deceased, whether deceased was a permanent or transient resident of the municipality in which he shall have died, whether the deceased had medical, attendance, and if so, the length of such attendance, the name and address of the physician attending, and whether there are indications of violence or crime, and such other information as may be required for identification or statistical purposes. The death certificate should be forwarded to the municipal secretary within forty-eight hours after death.

SEC. 18. If the person who furnishes the certificate has any reason to suspect, or observes any indication of violence or crime, he shall at once notify the provincial fiscal, if he shall be available, or if not, the municipal president, who shall take the proper steps to ascertain the circumstances and cause of death, and the corpse of such deceased person shall not be buried or interred until permission is obtained from the provincial fiscal, if he be available, and if not, from the president of the municipality in which the deceased shall have died.

SEC. 19. The municipal secretary, as secretary of the local board of health, if there be one, or, if there be no local board of health, in his capacity as secretary of the municipality, shall, upon the presentation of death certificates, issue burial permits, under conditions prescribed by the municipal council and the local sanitary regulations.

No permit to bury, inter, or remove for burial or interment elsewhere, or cremation, of any human body, shall be recorded or issued by a board of health or a municipal secretary until the certificate of death hereinbefore required shall have been registered: *Provided*, That in cases of emergency the municipal secretary or the municipal president shall have authority to furnish the required certificate. In cases of death before the passage of this act, where no certificate has been furnished, he may make the required certificate from such data as may be available.

SEC. 20. No sexton, superintendent, or other person having charge of a burial ground or cemetery shall assist in, assent to, or allow any interment disinterment, or cremation to be made until a permit from the municipal secretary, or municipal board of health authorizing the same, has been presented.

SEC. 21. Any permit for burial, interment, or cremation shall be null and void after a period of forty-eight hours has elapsed from the time of issue of said permit. Except when required by law, or when specially authorized by local health authorities, no dead body shall remain unburied for a greater period than forty-eight hours after death.

Whenever it has been certified, or is known that any person died with contagious, infectious, or communicable disease, such body shall be buried within twelve hours after death, unless otherwise directed by a board of health.

SEC. 22. A special permit may be issued by the board of health or by the municipal secretary, for the conveyance of a dead body to sea, whenever a person has, before death, expressed a desire for burial at sea: *Provided*, That the body be transported as prescribed by the board of health, and that the marine laws governing burials at sea are complied with.

SEC. 23. The body of any person dead of infectious or contagious disease shall not be carried from place to place, except for the purpose of burial or cremation. It shall be the duty of the local health authorities to cause such dead body to be thoroughly disinfected before being prepared for burial, and the house, furniture, wearing apparel, and everything capable of conveying or spreading infection shall also be disinfected or destroyed by fire. The local board of health shall prescribe the conditions under which bodies dead with infectious, contagious, or communicable diseases shall be buried or cremated, except as hereinafter provided.

SEC. 24. The removal of any body from its original place of interment is declared to be a nuisance and prejudicial to public health, unless the same shall be done by permission and under the direction of a board of health.

Permission to disinter or exhume the bodies or remains of persons who have died with noncontagious, noninfectious or noncommunicable diseases may be granted after such bodies have been buried for a period of three years. The body or remains of a deceased person, upon exhumation, shall be immediately disinfected and inclosed in a coffin, case, or box, securely fastened, and this coffin, case, or box shall be placed in an outside box, which shall also be securely fastened. Special permits may be issued for the disinterment or exhumation of deceased persons who have died with noncontagious, noninfectious, or noncommunicable diseases, after a period of one and one-half years has elapsed, if it be found that such disinterment or exhumation of remains will not be to the detriment of the public health: *Provided, also*, That special permits may be issued at any time for the disinterment or exhumation of remains of persons dying with noncontagious, noninfectious, or noncommunicable diseases that have been properly embalmed by an undertaker or embalmer, or that have been placed in a reciving vault awaiting transportation from the Philippine Islands, and that the boxes containing the bodies or remains be plainly marked with a paster showing the name of the deceased, place of death, cause of death, and the point to which they are to be shipped.

SEC. 25. Bodies or remains of persons who have died with contagious, infectious, or communicable diseases may be exhumed after a period of five years shall have elapsed: *Provided,* That such remains shall be immersed in a solution of at least fifty per centum strength of carbolic acid, or other equally efficient disinfectant, for a period of one week, and afterwards placed in a metal-lined coffin or casket, to be hermetically sealed, and such coffin shall be inclosed in a strong outer box made of good strong lumber, and not less than one inch thick, all joints ploughed, grooved and glued; the top and bottom to be put on with cleats and cross-pieces, and all parts put together with screws. All joints of said box shall be tightly closed with pitch or white lead, and a rubber band placed on the upper edge, between the lid and the box; and strong handles placed on each side and end of said outer box.

SEC. 26. No body or remains shall be shipped by sea, except under such conditions and regulations as may be prescribed by the United States Public Health and Marine-Hospital Service. Upon the outside box containing the body or remains of a deceased person intended for shipment by sea shall be securely tacked a statement showing the name, age, nationality of the deceased person, the cause of death, and the destination of the remains. A copy of this statement shall be supplied to the chief quarantine officer of the Philippine Islands, or to his authorized representative, and all regulations governing the shipment of bodies or remains of deceased persons, shall be fully complied with.

SEC. 27. The placing of the body of any deceased person in an unsealed, overground tomb is prohibited, unless the coffin or casket containing the remains shall be permanently and hermetically sealed in a metal case.

This provision shall not apply to tombs and vaults which are strictly receiving vaults for bodies or remains awaiting shipment from the Philippine Islands, or awaiting final disposition.

SEC. 28. It shall be the duty of each local board of health to keep and maintain a full and complete record of deaths, and it may require such reports as it may deem advisable.

SEC. 29. All morgues, undertaking establishments, receiving vaults, and places for embalming the dead, and all burial grounds or cemeteries, crematories, or other places for the disposition of the dead shall be subject, at all hours, to such inspection as the local health authorities or the Board of Health for the Philippine Islands may deem advisable; and such institutions or establishments, whether public or private, shall be governed by duly approved sanitary regulations of the local boards of health.

SEC. 30. Except in cases of emergency, any person who shall bury or inter, or cause to be buried or interred, a dead body of any human being, or any human remains, in any place except in a burial ground or cemetery, now or hereafter lawfully existing, shall, upon conviction, be punished according to the law.

SEC. 31. Any person who wantonly or maliciously defaces, breaks, or destroys any tomb, ornament, or gravestone erected to any deceased person, or any memento, or memorial, or any plant, tree, or shrub pertaining to places of burial of a human being, or who shall wantonly or maliciously remove any fence, post, or wall of any burial ground or cemetery, shall upon conviction, be punished as the law may prescribe.

SEC. 32. The duty of burying the body of a deceased person devolves upon the persons hereinafter specified:

1. If the deceased was a married man or woman, the duty of burial devolves upon the surviving spouse if he or she possesses sufficient means to pay the necessary expenses.
2. If the deceased was an unmarried man or woman, or a child, and left any kin, the duty of burial devolves upon the nearest of kin of the deceased, being adults, and within the Philippine Islands, and in possession of sufficient means to defray the necessary expenses.

3. If the deceased left no spouse or kindred possessed of sufficient means to defray the necessary expenses, as provided in the two foregoing numbers, the duty of burial devolves upon the public authorities.

Nothing herein contained shall change the liability of the estate of the deceased for the ultimate payment of expenses, the purpose and intent of this section being to fix the immediate duty of burial, and without respect to the ultimate liability of expense thereof.

SEC. 33. Any person upon whom the immediate duty of burial of a deceased person is imposed by law, who omits to perform that duty within forty-eight hours after death, having ability to do so, shall, upon conviction, be punished according to law.

SEC. 34. Any person charged by law with the duty of burying the body of a deceased person is entitled to the custody of such body for the purpose of burying it, except that in cases in which an inquest is required by law for the purpose of determining the cause of death, and in case of death with infectious, contagious, or communicable diseases, when such bodies shall remain in the custody of the local board of health, if there be one, or if there be no local board of health in the custody of the municipal council.

SEC. 35. Except in times of epidemics, or in cases of death due to contagious, infectious, or communicable diseases, the right to hold public funerals and to take the remains of deceased persons into churches or other places for this purpose, shall not be abridged or interfered with: *Provided*, That such remains shall have been properly disinfected and inclosed in a substantial coffin of wood or metal, so as to prevent the escape of offensive gas or odors: *And provided further*, That such funeral shall be conducted in an orderly manner. In cases of epidemic, recognized by the Board of Health for the Philippine Islands, and in cases of death due to contagious, infectious, or communicable diseases, the bodies of such deceased persons shall not be taken to places of public assembly, nor any person permitted to attend the funeral of such body, except the adult members of the immediate family of the deceased, his nearest friends, not exceeding four, and other persons whose attendance is absolutely necessary. After the deceased shall have been buried for a period of one hour, a public funeral may be held at the grave, or in a place of public assembly.

SEC. 36. Nothing in this Act shall operate to interfere with the military authorities of the United States in transporting the bodies or remains of officers, soldiers, sailors, or civilian employees in the Army or Navy, or other public service of the United States, or of their families, under Acts of Congress: *Provided*, That death was not due to cholera, bubonic plague, smallpox, yellow fever, or other such diseases as the Board of Health for the Philippine Islands may designate, in which case two years shall elapse before disinterment, unless the bodies were cremated before burial; or to interfere with the transit of bodies of officers, soldiers, sailors, or civilian employees of the Army, Navy, or other public service of the United States, or of their families, from places of death, in charge of the military authorities to the authorized burial places or embalming places, or other place or morgue.

SEC. 37. Subject to the approval of the Secretary of the Interior, the Board of Health for the Philippine Islands may make such rules and regulations, not inconsistent with law, as it may deem necessary for the purpose of carrying into effect the provisions of this Act, or for the purpose of meeting contingencies or emergencies as they arise, and upon any question affecting the maintenance of public health and the suppression and extermination of contagious epidemics and diseases, and the rules and regulations thus made, and approved, shall have the force and effect of law: *Provided*, That in the jurisdiction of the Moro Province such rules and regulations shall be made and submitted to the Secretary of the Interior by the governor of the Moro Province.

SEC. 38. Any person violating the provisions of this Act or any part thereof shall, upon conviction, be fined not to exceed two hundred pesos, Philippine currency, or six months in jail, or both, in the discretion of the court.

SEC. 39. All laws and ordinances or parts thereof in conflict with this Act are hereby repealed.

SEC. 40. The public good requiring the speedy enactment of this bill, the passage of the same is hereby expedited in accordance with section two of "An Act prescribing the order of procedure by the Commission in the enactment of laws," passed September twenty-sixth, nineteen hundred.

SEC. 41. This Act shall take effect on its passage.

MINERO-MEDICINAL WATERS OF THE PHILIPPINE ISLANDS.

Act No. 157, providing for the establishment of a board of health for the Philippine Islands, and fixing its duties, makes it incumbent on the said board to make inquiry and investigation into the causes, pathology, and means of preventing diseases, especially epidemic diseases, including those of domestic animals, together with the sources of mortality and the effects of localities, employments, conditions, habits, foods, beverages, and medicines on the health of the people, and into the chemical composition of minero-medicinal waters of the Philippine Islands.

Many samples of "marvelous" waters have been examined by the chemical laboratory at the request of this Bureau, with the result that faith cure has been determined to be the chief healing principle in each, except in the case of waters from Sibul Springs, Los Baños, the several springs in the Province of Ambos Camarines, and Province of Sorsogon. The results of the investigation into the medical properties of these waters are on file in the records of the Bureau and will be published when the series of investigations are complete.

HEALTH RESORTS.

At Baguio, Benguet Province, only about 130 miles from Manila, at an elevation of about 6,000 feet above the sea level the Government has established a sanitarium. The place has been made easily accessible by the completion of the Benguet road.

This resort has a temperate climate, good air, and good water, and will become the Mecca for all Americans in the Philippines as soon as it is made more readily accessible by railroad connection, which the Benguet highway just finished has made feasible and probable.

The establishment of a sanitarium at the health resort of Sibul Springs in Bulacan Province is under negotiation.

Los Baños, a few hours' ride from Manila by river steamer, is justly celebrated for the minero-medicinal character of its water. A general sanitarium is maintained at this place by private enterprise.

Those who need or prefer to take vacations outside of the Islands may visit, at moderate expense, China, Japan, Java, the Strait Settlements, or even India.

So far as the American civil employees are concerned, the Benguet highway has almost solved the problem involved in their living beyond the limits of their proper racial zone and the particular environments thought to be essential to the health and happiness of this race.

With the constantly improving conditions of life in the Philippines, Americans and Europeans may look forward to the average expectancy of health and life.

With the advent of the "era of railroad building," the number of health resorts will multiply. There are many places in the Islands that may justly be classed as such as soon as their advantages are made available by transportation facilities.

LABORATORY.

In discussing the question of laboratories in the Philippine Islands, I shall take the liberty to draw freely from a paper entitled "Evolution of the Medical Laboratory Work in the Philippine Islands and Opportunities Now Offered for Future Work," by the able Director of the Biological Laboratory, Dr. Richard P. Strong.

The history of scientific laboratories, and indeed of all laboratory work in these Islands, relates entirely to very recent times. The earliest record of the establishment in Manila of what might be called a laboratory was about 1883. It seems almost certain that as late as 1881 there was no laboratory in these Islands. At this time specimens of medico-legal importance were occasionally submitted by the courts to the principal druggist for examination. During the year 1881, in connection with a medico-legal case, the question arose as to whether a rather fresh stain upon a certain fabric was blood or some other substance, and an undisputed opinion could not be obtained upon it. This incident alone would seem to demonstrate that no proper laboratory existed at this time. About the latter part of the year 1882 three physicians of Manila, Dr. J. M. Donelan, an Irishman; Dr. Rufino Martini, a Spaniard, and Dr. Parmentier, a Frenchman, became convinced of the necessity of a proper medical laboratory in this city. These gentlemen visited Don Anacleto del Rosario y Sales, a druggist, and begged him to take up this matter, with the result that he established shortly after, in 1883, in his drug store, a laboratory which undertook particularly the microscopic examinations of specimens of sputum and of urine submitted by the various physicians of the city. It was in this laboratory that the bacillus of tuberculosis was for the first time, in Manila, shown and demonstrated under the microscope. A short time after, during the cholera epidemic which raged in these Islands, the morphology of the cholera spirillum was also here demonstrated to several physicians.

In the Biblioteca Filipina, compiled by Commissioner Tavera, may be found a note taken from the proceedings of the Chamber of Commerce and which may be translated as follows:

> **Don Anacleto del Rosario y Sales, a mestizo born in Manila, by virtue of his own efforts and work, gained renown as a chemist and microscopist greatly to be envied. Chemical analysis was his favorite science, and in his investigations in this branch he gained renewed laurels. He was a member of the faculty of pharmacy in the University of Manila, director of the municipal laboratory, and died in Manila in 1895, loved and respected by all.**

The first Spanish Government laboratory was apparently established in Manila in 1887 and 1888. During the latter year the municipal laboratory was opened, which was located first on Calle San Jacinto and later on in the present Ayuntamiento, and which undertook to perform chemical examinations of foods, liquors, waters, and other analyses for the sanitary department.

In July, 1894, the Government found it advisable to establish another laboratory for the performance of examinations in connection with medico-legal questions. This laboratory was situated on Calle Palacio and Dr. Mariano Garcia del Rey became its director. It was also supposed to perform clinical laboratory work for private physicians. After Rosario's death Dr. Antonio Casanova succeeded to the position of director of the municipal laboratory and Dr. Antonio Luna to that of professor of chemistry in this institution. Both of these laboratories were mainly employed in the performance of analyses desired by the Government.

As in Cuba and Porto Rico after American occupation the early efforts to establish laboratories here were made by the Army. It was at the hospital now known as the First Reserve, and which became the largest American military hospital in Manila, that the first attempt was made to establish a laboratory in 1898 by Captain McVay of the Medical Corps. Unfortunately about two months after he began this work Dr. McVay sickened with typhoid fever, to which he succumbed. After his death apparently no effort was made to continue this work at the hospital. At any rate, upon Dr. Strong's arrival here several months later (February, 1899) he found the building in which this work had been carried on closed. The room used for the laboratory contained an incubator and a number of tubes of culture media. The other equipment, including the microscope, had been returned to the medical supply depot. He also found Dr. McVay's notebook, which contained records of a number of blood examinations for malaria and serum reactions for typhoid fever. To Dr. McVay belongs the credit of having performed the first medical laboratory work in the hospitals here after American occupation.

Owing to the generosity of Surgeon-General Sternberg, who was ever ready to further any scientific work in the Army, Dr. Strong was supplied with a microscope and a very fair equipment for a small clinico-pathologic laboratory. With this equipment he was able, after a brief service in the field, to set up in a building in connection with the First

Reserve Hospital. The house in question contained four rooms upstairs, three of which were used for laboratory work. On the ground floor were rooms which were used for animals. Work tables were put in, culture media were prepared and incubators set up, and regular clinico-pathological laboratory examinations were begun.

Thus was established the first American medical laboratory in Manila.

On July 1, 1901, the United States Philippine Commission, by authority of the President of the United States, passed an act establishing the present Bureau of Government Laboratories and provided for a biological laboratory, a chemical laboratory, and a laboratory for the production of vaccine virus and of serums and prophylactics, and also for the establishment of a reference library. Under this act Dr. Paul C. Freer was appointed director of the chemical laboratory and Superintendent of the Bureau, and Dr. Strong became the director of the biological laboratory. Dr. Jobling was later appointed director of the serum laboratory, and upon his departure from these Islands in July, 1904, Dr. Woolley succeeded him in this position.

The Bureau of Government Laboratories will be glad to receive as guests trained workers who wish to pursue laboratory studies in these Islands. It will provide them with laboratory space and with proper apparatus and chemicals and also the necessary animals for research work. In return, it merely asks the privilege of publishing the results of the experiments in one of its own bulletins. The writer may also publish his article elsewhere if he so wishes.

THE RELATION OF CLIMATE AND HEALTH, WITH SPECIAL REFERENCE TO AMERICAN CIVIL-SERVICE EMPLOYEES.

In my last annual report I presented a table of statistics made up from the sick report of the various Bureaus, showing that the second year of residence in the Tropics is the critical period for American employees, and called attention to the special value of the statistics of the Civil Service Board, which at that time had not been published.

Dr. William S. Washburn, Chairman of the Philippine Civil Service Board, read before the Philippine Islands Medical Association at its recent meeting a very carefully prepared paper, entitled "The Relation of Climate and Health, with Special Reference to American Occupation of the Philippine Islands."

Dr. Washburn has studied the subject from the standpoint of the climatologist, and his scholarly paper, in my opinion, should be published in pamphlet form by the Government and a copy mailed to each applicant in the United States for a position in the Philippine Civil Service.

Dr. Washburn said, in part:

> In the classification of climates, based on the size and extent of masses of land, oceanic, insular, and continental, the climate of the Philippine Islands is largely that of the first two classes, oceanic and insular. Nowhere is the land distant from the sea coast more than 60 miles. The moderating influences of the great

bodies of sea water are therefore operative. On account of climatic influences, the climate of the Philippines is widely different from those of tropical Africa, South America, and Asia, in the same latitude. As a rule, the smaller the island the more equable the climate throughout the day and the year. The climate of the greater part of the Philippine Archipelago is for this reason comfortable and hygienically favorable for the treatment of many diseases. In the temperate zone an insular, mild, or equable climate is frequently a health resort.

Observations of the Manila Observatory show that while the temperature as indicated by the thermometer at sea level is practically the same throughout the Philippine Archipelago, it is higher in some regions than in others during the months of April, May, and June, which cover the period of greatest heat.

During this hot season there is a mean temperature of about 87° in the northern part of the Island of Panay and throughout the Island of Luzon, except the highlands, and a portion of the Provinces of Pampanga, Bulacan, Rizal, and Bataan.

During this period there is a mean temperature of about 83° in the parts of Luzon excepted above, including Manila, and the Islands of Romblon and Cebu, the peninsula of Zamboanga, and the west coasts of Samar, Negros, Panay, and Bohol.

A comparatively mild mean temperature of about 80° prevails during this period over the Sulu Archipelago, the extreme southeast of Luzon, and the eastern portions of those islands south of Luzon and contiguous to the Pacific Ocean, viz, Samar, Leyte, and Mindanao. If the readings of the thermometer for the elevated regions were included, these averages would be very considerably reduced.

Except for the months of April, May, and June, in the first and second regions named above the mean temperature for the remaining part of the year at or near the sea level is about 80°. The observations of the Manila Weather Bureau show that the annual variation of temperature is greater in the northern than in the southern part of the Archipelago.

Some portions of the Philippine Islands are characterized by a rainy season and a dry season, the rainy season gradually beginning in June, being excessive usually in July, August, and September, and gradually decreasing to November, while in other parts of the Archipelago there is a more even distribution of rain. Parts of the eastern coast of northern Luzon and the interior of Luzon above 4,000 feet, the Pacific ocean side of the Archipelago, including the eastern portions of the Islands of Masbate, Panay, and Bohol, are subject to the heaviest rainfalls, amounting to over 100 inches annually. In the other parts of the Archipelago, including Manila, the mean annual rainfall is less than 100 inches, decreasing to about 35 inches at Zamboanga.

The geological formation of the Philippine Islands is of volcanic origin, and in places of moderate elevation the earth covered by cultivable soil is not unhealthful.

The observations of the Manila Weather Bureau show a considerable difference in climate between the coastal regions of the Islands of Luzon and Mindanao. Mountain climate in these two islands is similar to that of Baguio, Luzon, whose altitude is 4,777 feet and whose average temperature and humidity are relatively low during the hot months of March, April, May, and June, owing to the prevailing winds blowing from the China Sea during that season. The climate of this region is ideal from November to June. The region consists of a rolling tableland, well watered. The forests are of pine and the soil productive. The vegetation is similar to that of the temperate zone.

Notwithstanding that the climate of the Philippines is commonly referred to as enervating, Americans connected with the public service, whether engaged upon work in offices or upon work requiring their presence in the open air, have probably on the average accomplished more in the Islands than is ordinarily accomplished at home in similar lines of work. Regular habits, the leading of a temperate life, and the absence of indulgence in excesses have much to do with one's health in any country. The climate of these Islands should not be held responsible for illness or physical breakdown due to those excesses which tend to physical demoralization in the temperate zone. Absence from home environment and restraints probably accounts for a large number of Americans who, by plunging into excesses of various kinds, caused their own physical demoralization and failure.

It should be remembered that there is no place even in the temperate zone suitable for and agreeable to all persons. There are so great a variety and so many degrees of physical obliquity that no single combination of climate influence, however favorable, can be found to meet all conditions. Because the climate of the Philippine Islands does not agree with some who even take reasonable care of themselves does not necessarily indicate that the climate is unhealthful. The physical condition of many improves after coming to the Islands and that of others remains normal.

As a general rule, the appearance of Europeans living in the Tropics seems to indicate an anemic condition. The "cry of the system for better blood" expressed in the form of neuralgia is, however, rare.

In this connection, Cabot states: "The most striking example of the fallacy of judging of anemia by the color of the skin and mucous membranes is the so-called 'tropical anemia.' Practically all persons belonging to white races who take up their abode in the Tropics acquire after a term of years an extreme pallor of the skin and mucous membranes, and this appearance has usually received the title of 'tropical anemia.' It turns out, however, from the careful studies of several different investigators, that the blood of such persons shows absolutely no anemia or other variation from the normal. The appearance of the skin is probably due to the action on the peripheral nerves and vessels. Tropical anemia is a condition not of the blood but of the skin and subcutaneous tissues. These views are confirmed by the more recent studies of Phden, Marestang, Gringus, and Eijkmann. Gottstein concludes that 'as a result of long residence in the Tropics * * * neither a quantitative change of the blood nor a reduction in the number of its cells or its hemoglobin-content takes place.'"

Cantlie observes that about two years are required for acclimation of the white man in the Tropics, after which good health is a reasonable expectation. Calvert makes a similar observation. These views seem to be borne out by statistics of the Board of Health for the Philippine Islands, which show the general average of sick days per year for five years for each American employee connected with the civil service of the Philippine Government as follows: First year, 4.80; second year, 7.63; third year, 4.47; fourth year, 0.81; fifth year, 0.83. Further corroboration is found in the following reported by Marston, showing the death rate of British white troops in India per 1,000 based upon statistics for a period of eight years prior to and including 1884: First and second years of service, 6; third to sixth years of service, inclusive, 1.88; seventh to tenth years of service, inclusive, 0.73.

The period of foreign service of the United States Army, being two or three years, appears to cover practically the usual period of acclimation. The conclusion appears to be reasonable that the fourth and fifth years of residence in the Philippines are more agreeable from the standpoint of health than any of the preceding years, as is indicated by the Board of Health statistics, a large proportion of the personnel of the Philippine civil service having been recruited from officers and enlisted men of the volunteer establishment of the Army. The views expressed by the president of this medical association, Dr. McDill, in his annual address, are in accord with conclusions reached by other observers.

The influence of the climate of the Philippines from a surgical point of view is clearly expressed by Maj. J. M. Banister, of the Medical Corps of the Army, in the following propositions:

"1. Aseptic results will just as surely follow aseptic methods in the Philippines as in the United States or Europe.

"2. Should septic infection occur in any clean case subjected to operation in the Philippines, blame the technique, not the climate.

"3. Successful attainment of the object for which the operation has been undertaken will follow careful and skillful surgery in the Philippines with the same regularity that we have been accustomed to observe in such work at home.

"4. Convalescence after surgical operations in the Philippines is rapid and satisfactory when such operations have been carefully and skillfully performed.

"5. The danger of mortality after a skillfully performed surgical operation in which all the details of a rigid aseptic technique have been carried out is not increased by the influences of the climate of the Philippines unless the patient is at the same time the victim of some other serious disease."

Similar views are expressed by the attending physician and surgeon, Civil Hospital, in his report submitted in 1903 to the Secretary of the Interior.

Major-General Wood, governor of the Moro Province, in his annual report to the Governor-General, states: "There is nothing in the climate in this portion of the Islands which prohibits a long residence here. The British residents of North Borneo and the Malay Peninsula, and the Dutch in Java manage to live apparently very contented and healthy lives in these countries, which are hotter than any portion of the Philippine Islands. While the service is in a way severe, it does not seem to deter the average Englishman or Dutchman from competing eagerly for positions in the government of the colonies, and it is believed that Americans can live and do good work where any other white race can. A moral life, with plenty of hard work, will be found to counteract in most cases the so-called demoralizing effects of the Philippine climate."

The revelations of bacteriologic research of the last few years, arming men with knowledge of the causative factors of many tropical diseases, have diminished the importance of their geographic and meteorologic relations, have destroyed theories of the climatic origin of disease, and thereby robbed the tropical region of many of its terrors, such as yellow fever, malaria, Asiatic cholera, and dysentery. Among Americans the late lamented Maj. Walter Reed and his coadjutors did monumental work along this line in Cuba and the Army laboratory at Washington. The preliminary work of the bacteriologists and pathologists connected with this magnificent and splendidly equipped new laboratory in the Far East gives every indication that the research work already inaugurated will show brilliant results and add new names to the long list of investigators whose work and discoveries in the field of preventive medicine deserve the gratitude of the whole world.

CONCLUSIONS.

(1) With respect to the principal climatologic factors, temperature, humidity, and atmospheric movements, the climate of the Philippine Archipelago is not extreme, and occupies an intermediate place in tropical climates, as it is distinctly insular in character, the greater portion of the land area being not far distant from the ocean. There are other modifying influences which obtain in portions of the Archipelago, such as general oceanic and local interisland currents, prevailing winds, elevation, the state of cultivation and drainage of the soil, and the presence of forests and other plant life.

(2) Excluding localities in the Tropics characterized by excessive heat, high relative humidity, or unhealthful soil conditions, acclimation or physiologic adaptation of the white man to tropical environment is possible.

(3) If acclimation is possible, colonization is possible.

(4) Failures of the white race to live in the Tropics and maintain health, excluding localities indicated in the second conclusion, appear to have been due principally to nonobservance of the rules of personal, domestic, and public hygiene.

(5) As a rule, Americans appear to become acclimated in the Philippines during the third year of residence.

(6) With sanitary surroundings and by observing the rules of personal and domestic hygiene, residence of Americans in the Philippine Islands appears to be attended with as little danger of disease and death as residence in the United States under similar sanitary conditions.

SANITARY LAWS.

The special acts recommended by the Board of Health may be found under the subjects to which they pertain, with the exception of the proposed sanitary code for Manila, which is submitted as an appendix.

SUGGESTIONS AND RECOMMENDATIONS.

The following suggestions and recommendations are made:

It is hoped that the work of dredging the esteros and cleaning them will be continued. As very few, if any, latrines empty into the esteros, there is not so much foul odor arising from them as formerly; still, they are a disgrace to the city, and should be cleaned and deepened.

Notwithstanding the fact every effort has been made in the way of the disinfection and tearing down, when necessary, of houses infected with plague, and that a number of rat catchers have been kept busy, a few cases of plague occur from time to time in Manila. It is hoped that the efforts to dislodge this disease will be kept up, and in the end be successful. A few cases of plague have appeared in Cebu, and the statement was received that rats had been found dead at various places within the city limits. So far, the disease has not reached formidable proportions in that city, and care should be taken to keep the disease under control.

The question of establishing the same form of city government in Cebu as in Manila has been raised. It is possible that if Cebu had a charter, chief of police, and a municipal judge, sanitary matters might be handled there in a more satisfactory manner.

When possible, all the insane in the Hospicio de San José should be removed to the insane asylum, and the hospicio turned into an orphan asylum.

It is again recommended that American or European prisoners who are condemned to serve a longer term than two years should not be kept in Bilibid Prison, but should either be sent to some prison in the United States or to some place in the neighborhood of Baguio. This recommendation is based solely on sanitary grounds.

In obedience to orders of superior authority, the Commissioner of Public Health is about to proceed to a post of duty at a distance from the Philippine Islands. Before laying down his office here, he desires to express, in a few simple words, his thanks to the members of the Philippine Commission, especially to the Governor-General, for the kindness and consideration he has received at their hands.

The courtesy which has been shown him by his official superiors has been grateful to him, and has gone far toward making tolerable what at times seemed an almost intolerable position.

Of the men who have worked with him, under his immediate supervision and observation, the Commissioner of Public Health can find no words adequate to express his appreciation.

To them are due the results accomplished, the benefits obtained, and the gratitude of their chief. They may rest assured that his gratitude is profound, his appreciation of their work and loyalty sincere, and his regret at parting with them genuine.

Respectfully submitted.

E. C. CARTER,
Major and Surgeon, United States Army,
Commissioner of Public Health.

The GOVERNOR-GENERAL, *Manila, P. I.*
(Through the Secretary of the Interior.)

STATISTICAL TABLES, SEPTEMBER 1, 1904, TO AUGUST 31, 1905.

VITAL STATISTICS.

Population of Manila.

[Official census of 1903.]

Nationality.	Population.	Nationality.	Population.
Americans	4,389	Chinese	21,230
Filipinos	189,782	All others	896
Spaniards	2,528		
Other Europeans	1,117	Total	219,941

Births reported from September 1, 1904, to August 31, 1905.[a]

Race.	Males.	Females.	Total.	Birthrate per 1,000.
Americans	57	54	111	25.29
Filipinos	3,997	3,566	7,563	39.85
Spaniards	25	28	53	20.96
Other Europeans	12	8	20	17.90
Chinese	21	6	27	1.27
All others	4	1	5	5.58
Total and average	4,116	3,663	7,779	35.36

[a] Incomplete.

Births, by districts, from September 1, 1904, to August 31, 1905.

Health districts.	Number of legitimates.			Number of illegitimates.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
No. 1, San Nicolas	343	260	603	51	39	90	693
No. 2, Tondo	617	591	1,208	25	23	48	1,256
No. 3, Quiapo	499	452	951	71	65	136	1,067
No. 4, Santa Cruz	807	729	1,536	86	96	182	1,718
No. 5, Sampaloc	443	415	858	88	86	174	1,032
No. 6, Intramuros	197	141	338	10	8	18	356
No. 7, Ermita, etc	837	715	1,552	42	43	85	1,637
Total	3,743	3,303	7,046	373	360	733	7,779

Deaths, by race, occurring among residents, and city death rate per 1,000 from September 1, 1904, to August 31, 1905.

Race.	Deaths.	Annual average per 1,000.	Race.	Deaths.	Annual average per 1,000.
Americans	39	8.88	Chinese	343	16.15
Filipinos	8,453	44.54	All others	26	29.05
Spaniards	51	20.17			
Other Europeans	14	12.53	Total and average	8,926	40.58

A classified report, by sex and condition, of all deaths occurring among residents and transients in Manila, from September 1, 1904, to August 31, 1905.

Males.	Number.	Females.	Number.
Married	969	Married	664
Widowers	309	Widows	506
Single	960	Single	262
Boys	3,200	Girls	2,711
Condition not stated	117	Condition not stated	33
Total	5,555	Total	4,176
Grand total			9,731

Stillbirths, 300.

Number of deaths with medical attendance	5,319
Number of deaths without medical attendance	4,412
Total	9,731

Deaths, by age, including transients.

Age.	Number.	Age.	Number.
Under 30 days	1,039	40 years to 50 years	502
30 days to 1 year	3,637	50 years to 60 years	396
1 year to 2 years	637	60 years to 70 years	309
2 years to 5 years	470	70 years to 80 years	189
5 years to 10 years	140	80 years to 90 years	105
10 years to 15 years	105	90 years to 100 years	58
15 years to 20 years	345	Over 100 years	16
20 years to 25 years	443	Unknown	29
25 years to 30 years	579		
30 years to 40 years	737	Total	9,731

Deaths, by districts, including transients.

Health districts.	Population.	Deaths.	Annual rate per 1,000.	Health districts.	Population.	Deaths.	Annual rate per 1,000.
No. 1, San Nicolas	58,573	844	15.75	No. 6, Intramuros	17,463	553	31,66
No. 2, Tondo	39,045	2,625	67.28	No. 7, Ermita, Paco, etc	28,054	1,524	54.32
No. 3, Quiapo	18,487	860	46.51				
No. 4, Santa Cruz	48,040	2,248	52.23				
No. 5, Sampaloc	20,279	1,077	53.10	Total and average	219,941	9,731	44.24

Comparative mortality from January 1, 1901, to August 31, 1905.

Month.	1901.		1902.		1903.		1904.		1905.	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	753	[a]36.25	760	[a]36.58	602	[a]28.98	796	[b]42.64	685	[b]36.99
February	689	[a]36.72	706	[a]37.63	511	[a]27.23	709	[b]40.59	608	[b]36.05
March	885	[a]42.66	770	[a]37.06	539	[a]25.94	751	[b]40.23	563	[b]30.15
April	886	[a]44.07	1,327	[a]66.01	549	[a]27.31	748	[b]41.40	530	[b]29.32
May	903	[a]43.47	1,688	[a]81.26	770	[a]37.06	766	[b]41.03	526	[b]28.16
June	621	[a]30.89	1,418	[a]70.54	592	[a]29.45	800	[b]44.28	593	[b]32.81
July	608	[a]29.27	2,223	[a]107.02	620	[b]33.21	866	[b]46.39	747	[b]40.00
August	702	[a]33.79	1,712	[a]82.42	862	[b]46.17	1,082	[b]55.28	841	[b]45.03
September	767	[a]38.15	1,132	[a]56.31	1,228	[b]67.97	1,064	[b]58.89		
October	855	[a]41.16	927	[a]44.62	1,217	[b]65.19	1,018	[b]54.53		
November	848	[a]42.18	1,035	[a]51.48	974	[b]53.91	957	[b]52.97		
December	858	[a]41.30	758	[a]36.25	894	[b]47.89	794	[b]42.58		

[a] Death rate computed on population of 244,782 (Health Department's census).
[b] Death rate computed on population of 219,941 (official census, 1903).

Number of deaths, with causes, occurring among residents in Manila from September 1, 1904, to August 31, 1905.

[Stillbirths not included.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)	1		5	1	59	51	4	1	122
4. Intermittent fever and malarial cachexia	2		2		64	35	7		110
4a. Malarial cachexia					11	3	4		18
5. Smallpox	1				3	2			6
6. Measles					1				1
7. Scarlet fever					1				1
8. Whooping cough					5	3			8
9. Diphtheria and croup					5				5
9a. Diphtheria						1			1
10. Influenza					8	3			11
12. Asiatic cholera	1	1	4		27	10	1		44
13. Cholera nostras					1				1
14. Dysentery	2	1	2	1	179	81	47		313
15. Bubonic plague	1				15	14	9		39
17. Leprosy					34	24			58
18. Erysipelas					5	4			9
19. Other epidemic diseases			2		127	113	48	1	291
20. Purulent infection and septicemia					7	6			13
21. Glanders and farcy					1				1
22. Malignant pustule					2	1			3
26. Tuberculosis of the larynx					31	27	1		59
27. Tuberculosis of the lungs			7	1	508	369	85	1	971
28. Tuberculosis of the meninges			1	1	15	14			31
29. Abdominal tuberculosis			1		21	22	1		45
30. Pott's disease					1	1			2
31. Cold abscess and abscess by congestion					1				1
33. Tuberculosis of other organs					3	3			6
34. General tuberculosis					11	5		1	17
35. Scrofula					5	4			9
36. Syphilis					1	1	9		11
38. Gonorrhea (under 5 years)						1			1
39. Cancer and other malignant tumors of the buccal cavity					2	2			4
40. Cancer and other malignant tumors of the stomach and liver					1				1
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum					1				1
42. Cancer and other malignant tumors of the female genital organs						8			8
43. Cancer and other malignant tumors of the breast				1		2			3
45. Cancer and other malignant tumors of other organs or of organs not specified					11	8			19
46. Other tumors (tumors of the female genital organs excepted)					1				1
47. Acute articular rheumatism					10	5			15
48. Chronic rheumatism and gout					31	32			63
50. Diabetes		1		1	3	2			7
53. Leukemia						2			2
54. Anemia, chlorosis			2	1	8	18		1	30
55. Other general diseases		1			1				2
56. Acute and chronic alcoholism	2								2
59. Other chronic poisonings							1		1
II. Diseases of the nervous system and of the organs of special sense.									
60. Encephalitis					4				5
61. Simple meningitis			2	1	198	158			359
62. Progressive locomotor ataxia			1		1	1			3
63. Other diseases of the spinal cord					2	1			3
64. Congestion and hemorrhage of the brain			2	1	53	46	3		105
65. Softening of the brain					2	5			7
66. Paralysis without specified cause					2	2	1		5
67. General paralysis					6	12	1		19
68. Other forms of mental alienation							5	1	6
69. Epilepsy					3	2	1		6
70. Convulsions (nonpuerperal; 5 years and over)						1			1
71. Convulsions (under 5 years)		1		1	1,438	1,188	4	4	2,636
72. Tetanus	1				54	32	1		88
73. Chorea					1				1
74. Other diseases of the nervous system					6	3			9
75. Diseases of the eye and its adnexa						2			2
76. Diseases of the ear						1			1

Number of deaths, with causes, occurring among residents, etc.—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
III. Diseases of the circulatory system.									
77. Pericarditis					2	4			6
78. Acute endocarditis			2		11	10			23
79. Organic diseases of the heart	3		4	2	29	28	31	1	98
80. Angina pectoris			1		13	22			36
81. Diseases of the arteries, atheroma, aneurism, etc			1	1	6	6	1		15
82. Embolism and thrombosis					2	3			5
85. Hemorrhages						1			1
86. Other diseases of the circulatory system							1		1
IV. Diseases of the respiratory system.									
88. Diseases of the larynx				1	4	2			7
90. Acute bronchitis			1		201	185	1		388
91. Chronic bronchitis					213	176	13	1	403
92. Broncho-pneumonia	1			1	24	23			49
93. Pneumonia					46	19	2		67
94. Pleurisy					2	1			3
95. Congestion and apoplexy of the lungs				1	13	6	2		22
96. Gangrene of the lungs					1				1
97. Asthma					15	14	4		33
99. Other diseases of the respiratory system (phthisis excepted)					2	1			3
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa					2				2
101. Diseases of the pharynx					1	1			2
102. Diseases of the esophagus							5		5
103. Ulcer of the stomach			2		2	3			7
104. Other diseases of the stomach (cancer excepted)					17	14			31
105. Diarrhea and enteritis (under 2 years)	1	1	1	2	155	134	1	2	297
105a. Chronic diarrhea and enteritis (under 2 years)					166	136			302
106. Diarrhea and enteritis (2 years and over			7		148	187	1		343
107. Intestinal parasites					3	4			7
108. Hernia and intestinal obstructions					6	5	1		12
109. Other diseases of the intestines			1		2	1			4
110. Acute yellow atrophy of the liver			1		6		1		8
111. Hydatid tumors of the liver					1				1
112. Cirrhosis of the liver					11	6			17
113. Biliary calculi					2	2			4
114. Other diseases of the liver	2				3	6	1		12
115. Diseases of the spleen					1		1		2
116. Simple peritonitis (nonpuerperal)					12	9	2		23
117. Other diseases of the digestive system (cancer and tuberculosis excepted)					1				1
118. Appendicitis and abscess of the iliac fossa					2		1		3
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis			1	1	11	21	2		36
120. Bright's disease	1		2	1	39	37	5	1	86
121. Other diseases of the kidneys and their adnexa			1		2				3
123. Diseases of the bladder			1		2	1			4
127. Metritis						7			7
128. Uterine hemorrhage (nonpuerperal)						3			3
131. Cysts and other tumors of the ovary						1			1
VII. The puerperal state.									
134. Accidents of pregnancy						1			1
135. Puerperal hemorrhage						29		1	30
136. Other accidents of labor						3			3
137. Puerperal septicemia				1		48			49
138. Puerperal albuminuria and convulsions						9			9
139. Phlegmasia alba dolens (puerperal)						1		1	2
140. Other puerperal accidents sudden death				1					1

Number of deaths, with causes, occurring among residents, etc.—**Continued.**

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VIII. Diseases of the skin and cellular tissue.									
143. Furuncle	------	------	------	------	2	------	------	------	2
144. Acute abscess, phlegmon	------	------	------	------	1	2	------	------	3
145. Other diseases of the skin and its adnexa	------	------	1	------	1	1	------	------	3
IX. Diseases of the organs of locomotion.									
146. Nontuberculous diseases of the bones	------	------	------	------	3	2	------	------	5
X. Malformations.									
150. Congenital malformations (stillbirths excepted)	1	------	------	------	7	4	------	------	12
XI. Early infancy.									
151. Congenital debility, icterus, and sclerema	------	1	1	------	217	177	------	2	398
152. Other diseases peculiar to early infancy	------	------	1	------	25	21	------	------	47
153. Lack of care	1	------	------	------	11	19	------	------	31
XII. Old age.									
154. Senile debility	------	------	------	2	67	125	3	------	197
XIII. External causes.									
155. Suicide by poison	------	------	1	------	------	------	------	------	1
157. Suicide by hanging or strangulation	------	------	------	------	1	1	------	------	2
159. Suicide by firearms	------	------	------	------	1	------	------	------	1
160. Suicide by cutting instruments	------	------	------	------	------	1	------	------	1
164. Fractures	------	------	------	------	8	1	1	------	10
166. Other accidental traumatisms	7	------	1	------	17	8	2	1	36
167. Burns and scalds	------	------	------	1	5	4	4	------	14
171. Electric shock	------	------	------	------	3	------	------	------	3
172. Accidental drowning	1	------	------	------	13	1	3	------	18
173. Inanition (starvation)	------	------	------	1	2	2	------	------	5
175. Other acute poisonings	2	------	1	------	3	2	------	------	8
176. Other external violence	------	------	------	------	1	2	1	------	4
XIV. Ill-defined diseases.									
177. Dropsy	------	------	------	------	1	------	------	------	1
178. Sudden death	------	------	------	------	1	------	------	------	1
179. Causes of death unspecified or ill defined	1	------	1	------	7	12	------	------	21
Total	32	7	65	26	4,567	3,886	323	20	------
Grand total	39		91		8,453		343		8,926

Number of deaths, with causes, occurring among transients in Manila from September 1, 1904, to August 31, 1905.

[These deaths are not included in computing death rate of city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)	1	1			11	4	2		19
4. Intermittent fever and malarial cachexia	3		2		17	8			30
4a. Malarial cachexia					5	1			6
12. Asiatic cholera	1				1				2
14. Dysentery	1	1	8		29	10	3		52
19. Other epidemic affections			5		20	10	11		46
20. Purulent infection and septicemia			1		2	1			4
26. Tuberculosis of the larynx					3	1			4
27. Tuberculosis of the lungs	1				117	29	2	1	150
29. Abdominal tuberculosis					2	1			3
34. General tuberculosis					6	1			7
35. Scrofula						1			1
39. Cancer and other malignant tumors of the buccal cavity						1			1
42. Cancer and other malignant tumors of the female genital organs						2			2
45. Cancer and other malignant tumors of other organs or of organs not specified			1						1
48. Chronic rheumatism and gout					1				1
54. Anemia, chlorosis			1		2	6			9
55. Other general diseases					1	1			2
59. Other chronic poisonings			1						1
II. Diseases of the nervous system and of the organs of special sense.									
60. Encephalitis		1							1
61. Simple meningitis		1	1	1	14	11			28
63. Other diseases of the spinal cord			1						1
64. Congestion and hemorrhage of the brain	1		1		4	3			9
65. Softening of the brain						1			1
71. Convulsions (under 5 years)					59	48			107
72. Tetanus					1				1
73. Chorea					1				1
74. Other diseases of the nervous system		1				1			2
III. Diseases of the circulatory system.									
77. Pericarditis					1				1
78. Acute endocarditis			1		2	1			4
79. Organic diseases of the heart					6	6	1		13
80. Angina pectoris					2	3			5
82. Embolism and thrombosis			1		1				2
IV. Diseases of the respiratory system.									
88. Affections of the larynx			1						1
90. Acute bronchitis					8	5			13
91. Chronic bronchitis					8	9	1		18
92. Broncho-pneumonia					1	1			2
93. Pneumonia			2		41	1	1	1	46
94. Pleurisy								1	1
97. Asthma						1	1		2
V. Diseases of the digestive system.									
103. Ulcer of the stomach					2				2
104. Other diseases of the stomach (cancer excepted					3	2			5
105. Diarrhea and enteritis (under 2 years)				1	13	8		1	23
105a. Chronic diarrhea and enteritis (under 2 years)					6	5			11
106. Diarrhea and enteritis (2 years and over)	1		5		15	16	1		38
107. Intestinal parasites					2				2
108. Hernia and intestinal obstructions					1		1		2
112. Cirrhosis of the liver					1				1
114. Other diseases of the liver					1		1		2
116. Simple peritonitis (nonpuerperal)			1		2				3
118. Appendicitis and abscess of the iliac fossa	1								1

Number of deaths, with causes, occurring among transients, etc.—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis					7	4	1		12
120. Bright's disease			4		9	11			24
121. Other diseases of the kidneys and their adnexa					1				1
122. Calculi of the urinary track					1				1
123. Diseases of the bladder					1		1		2
127. Metritis						1			1
131. Cysts and other tumors of the ovary						2			2
VII. The puerperal state.									
134. Accidents of pregnancy						1			1
135. Puerperal hemorrhage						4			4
137. Puerperal septicemia						1			1
138. Puerperal albuminuria and convulsions		1				1			2
140. Other puerperal accidents sudden death						1			1
VIII. Diseases of the skin and cellular tissue.									
145. Other diseases of the skin and its adnexa					1				1
X. Malformations.									
150. Congenital malformations (stillbirths excepted)						1			1
XI. Early infancy.									
151. Congenital debility, icterus, and sclerema					5	3			8
153. Lack of care					2				2
XII. Old age.									
154. Senile debility					5	5			10
XIII. External causes.									
164. Fractures					1				1
166. Other accidental traumatisms	1				21	1			23
172. Accidental drowning	1				2		1		4
173. Inanition (starvation)					1				1
174. Absorption of deleterious gases (nonsuicidal)			2						2
175. Other acute poisonings					1				1
176. Other external violence						1			1
XIV. Ill-defined diseases.									
179. Causes of death unspecified or ill defined	1				4	1	2		8
Total	13	6	39	2	474	237	30	4	
Grand total	19		41		711		34		805

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905.

Causes of death.	Less than one day to thirty days.								From thirty days to one year.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																
4. Intermittent fever and malarial cachexia									1				1	1		
4a. Malarial cachexia														1		
8. Whooping cough													2	1		
9. Diphtheria and croup													2			
10. Influenza													2	2		
14. Dysentery													7	1		
18. Erysipelas					2								2	1		
19. Other epidemic diseases													8	3		
27. Tuberculosis of the lungs					1								1			1
28. Tuberculosis of the meninges						1							9	7		
31. Cold abscess and abscess by congestion																
34. General tuberculosis													1			
35. Scrofula					1								1	1		
46. Other tumors (tumors of the female genital organs excepted)													1			
47. Acute articular rheumatism														1		
53. Leukemia						1										
54. Anemia chlorosis				1										1		
II. Diseases of the nervous system and of the organs of special sense.																
60. Encephalitis													1			
61. Simple meningitis					6	2				1	2	1	117	98		
64. Congestion and hemorrhage of the brain					1								1	1		
71. Convulsions (under 5 years)					274	207	1	1		1		1	1,196	1,020	3	2
72. Tetanus	1				40	28										
74. Other diseases of the nervous system					3								1	3		
76. Diseases of the ear														1		
III. Diseases of the circulatory system.																
77. Pericarditis														1		
78. Acute endocarditis					1											
79. Organic diseases of the heart	1															
82. Embolism and thrombosis														1		
85. Hemorrhages						1										

IV. Diseases of the respiratory system.																
88. Diseases of the larynx					1									1		
90. Acute bronchitis					5	8					1		161	144	1	
91. Chronic bronchitis					1	1							156	118		
92. Broncho-pneumonia					2	1			1				11	12		
93. Pneumonia						1							6	3	1	
95. Congestion and apoplexy of the lungs					10	4								1		
V. Diseases of the digestive system.																
100. Diseases of the mouth and its adnexa													1			
104. Other diseases of the stomach (cancer excepted)													9	4		
105. Diarrhea and enteritis (under 2 years)				1	12	8		1	1	1	1	2	118	98	1	2
105a. Chronic diarrhea and enteritis (under 2 years)					5	3							87	74		
108. Hernia and intestinal obstructions														1		
114. Other diseases of the liver													1	1		
116. Simple peritonitis (nonpuerperal)					2	2							4	2		
VI. Diseases of the genito-urinary system and its adnexa.																
119. Acute nephritis													4	5		
120. Bright's disease													6			
VIII. Diseases of the skin and cellular tissue.																
145. Other diseases of the skin and its adnexa					1								1	1		
IX. Diseases of the organs of locomotion.																
146. Nontuberculous diseases of the bones													1	1		
X. Malformation.																
150. Congenital malformations (stillbirths excepted)	1				8	1							3	4		
XI. Early infancy.																
151. Congenital debility, icterus and sclerema					199	158		2		1	1		22	21		
152. Other diseases peculiar to early infancy					15	10							4	8		
153. Lack of care	1					2							10	13		
XIII. External causes.																
166. Other accidental traumatisms													1			
167. Burns and scalds													1			
173. Inanition (starvation)				1	1								1			
175. Other acute poisonings									1							

Death, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Causes of death.	Less than one day to thirty days.								From thirty days to one year.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
XIV. Ill-defined diseases.																
177. Dropsy													1			
179. Causes of death unspecified or ill defined						2			1				2	2		
Total	4			3	586	441	1	4	5	4	5	4	1,959	1,649	6	5
Grand total	4		3		1,027		5		9		9		3,608		11	

Cause of death.	From one to five years.								From five to ten years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																
1. Typhoid fever (abdominal typhus)				1	3	8		1					5	9		
4. Intermittent fever and malarial cachexia					6	7							8	3		
4a. Malarial cachexia					3	1										
5. Smallpox	1				2	1										
6. Measles					1											
7. Scarlet fever					1											
8. Whooping cough					8	2										
9. Diphtheria and croup					2											
9a Diphtheria														1		
12. Asiatic cholera						1										
13. Cholera nostras					1											
14. Dysentery					52	34							15	8		
15. Bubonic plague						1								1		
18. Erysipelas						3										
19. Other epidemic diseases					6	10							3	3		
20. Purulent infection and septicemia					1	1										
26. Tuberculosis of the larynx					1	1										
27. Tuberculosis of the lungs					2	5							3	4		
28. Tuberculosis of the meninges			1	1	4	5								1		
29. Abdominal tuberculosis					10	2							1	4		

30. Pott's disease													1			
33. Tuberculosis of other organs					1											
34. General tuberculosis					2								2	1		
35. Scrofula					4	3										
38. Gonorrhea (under 5 years)						1										
45. Cancer and other malignant tumors of other organs or of organs not specified					1											
47. Acute articular rheumatism														1		
54. Anemia, chlorosis					2	1		1					1	2		
55. Other general diseases										1						
II. Diseases of the nervous system and of the organs of special sense.																
61. Simple meningitis				1	69	58					1		4	4		
64. Congestion and hemorrhage of the brain						1										
67. General paralysis														1		
69. Epilepsy					1	2										
70. Convulsions (nonpuerperal; 5 years and over)														1		
71. Convulsions (under 5 years)					27	9		1								
72. Tetanus					1								4	1		
74. Other diseases of the nervous system					1									1		
75. Diseases of the eye and its adnexa						1										
III. Diseases of the circulatory system.																
77. Pericarditis														1		
78. Acute endocarditis											1					
80. Angina pectoris					1	1										
82. Embolism and thrombosis					1											
IV. Diseases of the respiratory system.																
88. Diseases of the larynx				1	2	1										
90. Acute bronchitis					42	35								1		
91. Chronic bronchitis					43	44							1	6		
92. Broncho-pneumonia				1	10	5										
93. Pneumonia					1	2							1			
95. Congestion and apoplexy of the lungs				1												
97. Asthma					2									1		
V. Diseases of the digestive system.																
101. Diseases of the pharynx					1	1										
103. Ulcer of the stomach					1											
104. Other diseases of the stomach (cancer excepted)					4	4										
105. Diarrhea and enteritis (under 2 years)					38	41										
105a. Chronic diarrhea and enteritis (under 2 years)					80	64										
106. Diarrhea and enteritis (2 years)					112	155							7	10		
107. Intestinal parasites					3	3							1	1		
108. Hernia and intestinal obstructions					1	1										
116. Simple peritonitis (nonpuerperal)					1		1									

Death, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	From one to five years.								From five to ten years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
VI. Diseases of the genito-urinary system and its adnexa.																
119. Acute nephritis					2	1								2		
120. Bright's disease					4								1	1		
IX. Diseases of the organs of locomotion.																
146. Nontuberculous diseases of the bones						1							1			
X. Malformations.																
150. Congenital malformations (stillbirths excepted)					1											
XI. Early infancy.																
151. Congenital debility, icterus and sclerema					1	1										
152. Other diseases peculiar to early infancy			1		5	2							1	1		
153. Lack of care					3	4										
XIII. External causes.																
167. Burns and scalds					1	3							1			
172. Accidental drowning					1	1							2			
173. Inanition (starvation)						2										
175. Other acute poisonings					1									1		
XIV. Ill-defined diseases.																
179. Causes of death unspecified or ill defined													2	1		
Total	1		2	6	569	525	1	3		1	2		65	72		
Grand total	1		8		1,094		4		1		2		187			

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	From ten to fifteen years.								From fifteen to twenty years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
General diseases.																
1. Typhoid fever (abdominal typhus)					7	5							19	14	1	
4. Intermittent fever and malarial cachexia					2	6							18	5	1	
4a. Malarial cachexia					3								1		1	
5. Smallpox													1			
10. Influenza					1								2			
12. Asiatic cholera					1	2					1		8	2		
14. Dysentery						2							7	4	1	
15. Bubonic plague					8	4							7	1	1	
17. Leprosy													5	5		
19. Other epidemic diseases					4	4							19	14	5	
20. Purulent infection and septicemia					2	1							4	2		
26. Tuberculosis of the larynx						1							2	1		
27. Tuberculosis of the lungs					5	9					1		61	18		
29. Abdominal tuberculosis						1							8			
30. Pott's disease														1		
33. Tuberculosis of other organs														1		
34. General tuberculosis						1							1			
40. Cancer and other malignant tumors of the stomach and liver													1			
45. Cancer and other malignant tumors of other organs or of organs not specified						1							1			
47. Acute articular rheumatism													2	1		
48. Chronic rheumatism and gout													1			
50. Diabetes										1						
54. Anemia chlorosis					1									6		
55. Other general diseases						1										
II. Diseases of the nervous system and of the organs of special sense.																
61. Simple meningitis					2	4							4	1		
64. Congestion and hemorrhage of the brain													1	2		
67. General paralysis														1		
69. Epilepsy							1						1			
72. Tetanus					2								1			

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	From ten to fifteen years.								From fifteen to twenty years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
III. Diseases of the circulatory system.																
77. Pericarditis						1										
78. Acute endocarditis					1	1							8	1		
79. Organic diseases of the heart					2								5	2		
80. Angina pectoris						1							1	2		
82. Embolism and thrombosis													1			
IV. Diseases of the respiratory system.																
91. Chronic bronchitis						1							2			
92. Broncho-pneumonia						1										
93. Pneumonia					1	3							13	1		
94. Pleurisy													1			
95. Congestion and apoplexy of the lungs														1		
97. Asthma					1									1		
V. Diseases of the digestive system.																
106. Diarrhea and enteritis (2 years and over)					1	1							5	4		
107. Intestinal parasites					1											
112. Cirrhosis of the liver					1								1			
114. Other diseases of the liver													1			
115. Diseases of the spleen					1											
116. Simple peritonitis (nonpuerperal)													2	2		
118. Appendicitis and abscess of the iliac fossa	1				1											
VI. Diseases of the genito-urinary system and its adnexa.																
119. Acute nephritis					1									2		
120. Bright's disease					2									2		1
123. Diseases of the bladder													1			
127. Metritis														1		
VII. The puerperal state.																
135. Puerperal hemorrhage														4		
137. Puerperal septicemia														10		
138. Puerperal albuminuria and convulsions														2		

VIII. Diseases of the skin and cellular tissue.																
143. Furuncle													1			
XIII. External causes.																
164. Fractures													2			
166. Other accidental traumatisms					2								5	1		
167. Burns and scalds												1	1			
172. Accidental drowning					1											
173. Inanition starvation													1			
175. Other acute poisonings													1			
176. Other external violence														1		
XIV. Ill-defined diseases.																
179. Causes of death unspecified or ill defined						3							1	1		
Total	1				49	54	1			1	2	1	213	117	10	1
Grand total	1				103		1		1		3		330		11	

Cause of death.	From twenty to twenty-five years.								From twenty-five to thirty years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																
1. Typhoid fever (abdominal typhus)		1	2		13	3	1		1				7	5	2	
4. Intermittent fever and malarial cachexia			2		11	6					1		9	4	3	
4a. Malarial cachexia					1	1							2		2	
5. Smallpox														1		
9. Diphtheria and croup													1			
10. Influenza					1											
12. Asiatic cholera			2		5						1		5	1		
14. Dysentery			3		21	3	1			1	2		19	5	11	
15. Bubonic plague					4	3			1					2	2	
17. Leprosy					4	3							10	4		
18. Erysipelas					1											
19. Other epidemic diseases			4		13	15	7						28	22	12	
20. Purulent infection and septicemia			1										1			
21. Glanders and farcy													1			
22. Malignant pustule														1		
26. Tuberculosis of the larynx					2	2							7	6		
27. Tuberculosis of the lungs					85	53	3				1	1	121	75	18	
28. Tuberculosis of the meninges					1								1			

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	From twenty to twenty-five years.								From twenty-five to thirty years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases—Continued.																
29. Abdominal tuberculosis					1	5							3			
33. Tuberculosis of other organs					1											
34. General tuberculosis					2	1							2	2		
36. Syphilis							1						1	1	1	
45. Cancer and other malignant tumors of other organs or of organs not specified						1							1	1		
47. Acute articular rheumatism					2								1			
48. Chronic rheumatism and gout					1								1	1		
53. Leukemia						1										
54. Anemia, chlorosis						1							2	2		
II. Diseases of the nervous system and of the organs of special sense.																
60. Encephalitis					1					1						
61. Simple meningitis					1								3	4		
62. Progressive locomotor ataxia														1		
63. Other diseases of the spinal cord											1					
64. Congestion and hemorrhage of the brain					2	1							3		2	
67. General paralysis					1	1								1		
68. Other forms of mental alienation															1	
72. Tetanus					1								3			
74. Other diseases of the nervous system													1			
75. Diseases of the eye and its adnexa						1										
III. Diseases of the circulatory system.																
77. Pericarditis													1	1		
78. Acute endocarditis						1							1	3		
79. Organic diseases of the heart					4	3	1	1	1				2	6	4	
80. Angina pectoris					1	3							1	7		
81. Diseases of the arteries, atheroma, aneurism, etc													1			
82. Embolism and thrombosis			1											1		
IV. Diseases of the respiratory system.																
90. Acute bronchitis					1											
91. Chronic bronchitis						5							1	1		

92. Broncho-pneumonia						1								1		
93. Pneumonia					14	3							17	3	1	
94. Pleurisy																1
95. Congestion and apoplexy of the lungs							1						1			
96. Gangrene of the lungs					1											
99. Other diseases of the respiratory system (phthisis excepted													2			
V. Diseases of the digestive system.																
103. Ulcer of the stomach					1											
104. Other diseases of the stomach cancer excepted					1								1			
106. Diarrhea and enteritis (2 years and over)			4		5	4					1		3	3	1	
108. Hernia and intestinal obstructions						1										
109. Other diseases of the intestines													1			
110. Acute yellow atrophy of the liver					2								1			
112. Cirrhosis of the liver													1	1		
114. Other diseases of the liver						2										
116. Simple peritonitis (nonpuerperal)			1		2	1							3		1	
118. Appendicitis and abscess of the iliac fossa															1	
VI. Diseases of the genito-urinary system and its adnexa.																
119. Acute nephritis					3	3	1				1		1	2	1	
120. Bright's disease			1		2	1							1	2		
121. Other diseases of the kidneys and their adnexa					2											
122. Calculi of the urinary tract					1											
123. Diseases of the bladder														1		
127. Metritis						1								3		
128. Uterine hemorrhage (nonpuerperal)														1		
VII. The puerperal state.																
134. Accidents of pregnancy						1								1		
135. Puerperal hemorrhage						6								10		
136. Other accidents of labor						1								1		
137. Puerperal septicemia				1		15								12		
138. Puerperal albuminuria and convulsions		1				3								2		
139. Phlegmasia alba dolens (puerperal)						1										1
140. Other puerperal accidents, sudden death						1										
VIII. Diseases of the skin and cellular tissue.																
145. Other diseases of the skin and its adnexa											1					
IX. Diseases of the organs of locomotion.																
146. Nontuberculous diseases of the bones													1			

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	From twenty to twenty-five years.								From twenty-five to thirty years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
XIII. External causes.																
157. Suicide by hanging or strangulation					1											
164. Fractures					3								1			
166. Other accidental traumatisms	3		1		6	2		1	1				10	3		
167. Burns and scalds						1	2								1	
171. Electric shock					1								2			
172. Accidental drowning	1				2								2			
174. Absorption of deleterious gases (nonsuicidal)			2													
175. Other acute poisonings					1	1			1				1	1		
176. Other external violence													1			
XIV. Ill-defined diseases.																
179. Causes of death unspecified or ill defined					1								1			
Total	4	2	24	1	230	162	18	2	5	2	9	1	291	205	64	2
Grand total	6		25		392		20		7		10		496		66	

Cause of death.	From thirty to thirty-five years.								From thirty-five to forty years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																
1. Typhoid fever (abdominal typhus)					5	3			1		1		2	2		
4. Intermittent fever and malarial cachexia					3	1			1				1		8	
4a. Malarial cachexia						1	1						3			
10. Influenza														1		
12. Asiatic cholera	2				6		1						2	3		
14. Dysentery	1		3		18	2	11		2				16	6	9	
15. Bubonic plague							2								2	
17. Leprosy					4	2							4	1		

19. Other epidemic diseases			1		13	15	8				1		9	8	11	
20. Purulent infection and septicemia													1	1		
26. Tuberculosis of the larynx					5	2							2	2		
27. Tuberculosis of the lungs			1		69	40	21	1					65	58	18	
29. Abdominal tuberculosis					1	1							2	2	1	
33. Tuberculosis of other organs						1										
34. General tuberculosis					2			1					2			
36. Syphilis							4								1	
42. Cancer and other malignant tumors of the female genital organs						1								1		
45. Cancer and other malignant tumors of other organs or of organs not specified			1													
47. Acute articular rheumatism					1								2	1		
48. Chronic rheumatism and gout					2								1	2		
54. Anemia, chlorosis			1		2	1					1		1			
55. Other general diseases					2											
59. Other chronic poisonings											1				1	
II. Diseases of the nervous system and of the organs of special sense.																
60. Encephalitis			1										1			
61. Simple meningitis					1	2							1	1		
63. Other diseases of the spinal cord					2											
64. Congestion and hemorrhage of the brain					4	3			1				4	2	1	
65. Softening of the brain						2								1		
66. Paralysis without specified cause						1										
67. General paralysis						1								2		
68. Other forms of mental alienation							1								1	
72. Tetanus						1							1		1	
73. Chorea					2											
74. Other diseases of the nervous system										1						
III. Diseases of the circulatory system.																
77. Pericarditis					1											
78. Acute endocarditis					1	1					1			8		
79. Organic diseases of the heart					3	2	7		1		2		3	4	2	
80. Angina pectoris					2	2								8		
82. Embolism and thrombosis														1		
IV. Diseases of the respiratory system.																
88. Diseases of the larynx					1											
91. Chronic bronchitis													1	1		1
92. Broncho-pneumonia						1										
93. Pneumonia			1		7			1			1		10	2		
95. Congestion and apoplexy of the lungs					1											
97. Asthma														1		

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	From thirty to thirty-five years.								From thirty-five to forty years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
V. Diseases of the digestive system.																
102. Diseases of the esophagus															1	
103. Ulcer of the stomach			1										1			
104. Other diseases of the stomach (cancer excepted)						1							1	1		
106. Diarrhea and enteritis (2 years and over)	1		1		3						1		3	4	1	
108. Hernia and intestinal obstructions					1											
109. Other diseases of the intestines													1			
110. Acute yellow atrophy of the liver					1		1				1					
112. Cirrhosis of the liver					1											
114. Other diseases of the liver	1								1							
115. Diseases of the spleen							1									
116. Simple peritonitis (nonpuerperal)														1		
118. Appendicitis and abscess of the iliac fossa													1			
VI. Diseases of the genito-urinary system and its adnexa.																
119. Acute nephritis					2	3	1							3		
120. Bright's disease					1	6	1		1		2		1	3		
127. Metritis						1										
128. Uterine hemorrhage (nonpuerperal)						1										
131. Cysts and other tumors of the ovary														1		
VII. The puerperal state.																
135. Puerperal hemorrhage						8		1						3		
136. Other accidents of labor														1		
137. Puerperal septicemia						7								5		
138. Puerperal albuminuria and convulsions						2										
140. Other puerperal accidents—sudden death				1												
XIII. External cause.																
155. Suicide by poison			1													
157. Suicide by hanging or strangulation														1		
164. Fractures					1											
166. Other accidental traumatisms	3				5		1						4			
167. Burns and scalds					1										1	

172. Accidental drowning					1		1						1			
175. Other acute poisonings			1													
176. Other external violence															1	
XIV. Ill-defined diseases.																
179. Causes of death unspecified or ill defined					1	1					1					
Total	8		13	1	176	116	62	4	8	1	13		147	132	55	1
Grand total	8		14		292		66		9		13		279		56	

Cause of death.	From forty to forty-five years.								From forty-five to fifty years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																
1. Typhoid fever (abdominal typhus)					4	1	2				2		1	2		
4. Intermittent fever and malarial cachexia	2				2								3	3		
12. Asiatic cholera		1			1								8			
14. Dysentery					5	4	6				2		12	4	4	
15. Bubonic plague						1	1							1		
17. Leprosy					8	3							1	2		
19. Other epidemic diseases					8	6	8				1		12		6	
22. Malignant pustule													1			
26. Tuberculosis of the larynx					4	4							2	5		
27. Tuberculosis of the lungs	1				47	40	11						47	29	11	
29. Abdominal tuberculosis						1								2		
34. General tuberculosis					1								1			
36. Syphilis															1	
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum													1		1	
42. Cancer and other malignant tumors of the female genital organs						1								1		
45. Cancer and other malignant tumors of other organs or of organs not specified						1							2			
47. Acute articular rheumatism													1			
48. Chronic rheumatism and gout													2	8		
50. Diabetes													1	1		
54. Anemia chlorosis						2								3		
56. Acute and chronic alcoholism	1								1							

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	From forty to forty-five years.								From forty-five to fifty years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
II. Diseases of the nervous system and of the organs of special sense.																
60. Encephalitis													1			
61. Simple meningitis						1							2	2		
64. Congestion and hemorrhage of the brain			1		5	4							3	6		
65. Softening of the brain						2										
67. General paralysis							1						2	1		
68. Other forms of mental alienation							2									1
72. Tetanus						1										
III. Diseases of the circulatory system.																
78. Acute endocarditis					1								1			
79. Organic diseases of the heart					1	1	6				2		2	3	7	
80. Angina pectoris			1		2									1		
81. Diseases of the arteries (atheroma, aneurism, etc.)			1			1							1			
IV. Diseases of the respiratory system.																
88. Diseases of the larynx											1					
91. Chronic bronchitis					1									1	2	
93. Peneumonia					5		1						4			
95. Congestion and apoplexy of the lungs													1		1	
97. Asthma					1		2							3	1	
V. Diseases of the digestive system.																
100. Diseases of the mouth and its adnexa					1											
102. Diseases of the esophagus							1								1	
103. Ulcer of the stomach													1			
104. Other diseases of the stomach (cancer excepted)					1	1								2		
106. Diarrhea and enteritis (2 years and over)			1		1	1					1		3	8		
108. Hernia and intestinal obstructions					2		1									
109. Other diseases of the intestines			1													
110. Acute yellow atrophy of the liver													1			
112. Cirrhosis of the liver					2								2	2		
114. Other diseases of the liver					1		1								1	
117. Other diseases of the digestive system (cancer and tuberculosis excepted)					1											

VI. Diseases of the genito-urinary system and its adnexa.																
119. Acute nephritis												1	1	1		
120. Bright's disease					3	1	1						1	3	1	
121. Other diseases of the kidneys and their adnexa					1											
123. Diseases of the bladder					1		1				1					
127. Metritis						1										
131. Cysts and other tumors of the ovary						1								1		
VII. The puerperal state.																
135. Puerperal hemorrhage						1										
138. Puerperal albuminuria						1										
XIII. External causess.																
164. Fractures					1											
166. Other accidental traumatism					2	1							1			
172. Accidental drowning													1			
176. Other external violence														1		
XIV. Ill-defined disease.																
178. Sudden death													1			
179. Causes of death unspecified or ill defined	1												1		1	
Total	5	1	5		108	82	45		1		10	1	120	86	37	1
Grand total	6		5		190		45		1		11		206		38	

Cause of death.	Over fifty years.								Unknown.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.																
1. Typhoid fever (abdominal typhus)					4	3										
4. Intermittent fever and malarial cachexia			1		15	7			1				2			
4a. Malarial cachexia					2								1			
10. Influenza					2											
12. Asiatic cholera					1	1							1			
14. Dysentery		1		1	36	18	7									
15. Bubonic plague					1										1	
17. Leprosy					3	4										
19. Other epidemic diseases					29	23	2	1								
20. Purulent infection and septicemia						1								1		

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	Over fifty years.								Unknown.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
I. General diseases.—Continued.																
22. Malignant pustule					1											
26. Tuberculosis of the larynx					9	4	1									
27. Tuberculosis of the lungs			4		116	66	5						2		1	
29. Abdominal tuberculosis			1		2	5										
33. Tuberculosis of other organs					1	1										
34. General tuberculosis					1	1										
35. Scrofula						1										
36. Syphilis							1									
39. Cancer and other malignant tumors of the buccal cavity					2	3										
42. Cancer and other malignant tumor sof the female genital organs						6										
43. Cancer and other malinant tumors of the breast				1		2										
45. Cancer and other malignant tumors of other organs or of organs not specified					6	4										
47. Acute articular rheumatism					1	1										
48. Chronic rheumatism and gout					24	26										
50. Diabetes				1	2	1										
54. Anemia chlorosis			1		1	5										
II. Diseases of the nervous system and of the organs of special sense.																
61. Simple meningitis					2	2										
62. Progressive locomotor ataxia			1		1											
63. Other diseases of the spinal cord						1										
64. Congestion and hemorrhage of the brain			2	1	32	29							1			
65. Softening of the brain					2	1										
66. Paralysis without specified cause					2	1	1									
67. General paralysis					3	4										
69. Epilepsy													1			
72. Tetanus					2	1										
III. Diseases of the circulatory system.																
77. Pericarditis													1			
78. Acute endocarditis			1		4	1										
79. Organic diseases of the heart				2	13	13	5									
80. Angina pectoris					7	5										

81. Diseases of the arteries, atheroma, aneurism, etc	-----	-----	-----	1	4	5	1	-----	-----	-----	-----	-----	-----	-----	-----	-----
82. Embolism and thrombosis	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
86. Other diseases of the circulatory system	-----	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----
IV. Diseases of the respiratory system.																
90. Acute bronchitis	-----	-----	-----	-----	-----	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
91. Chronic bronchitis	-----	-----	-----	-----	15	7	12	-----	-----	-----	-----	-----	-----	-----	-----	-----
92. Broncho-pneumonia	-----	-----	-----	-----	2	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
93. Pneumonia	-----	-----	-----	-----	8	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
94. Pleurisy	-----	-----	-----	-----	1	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
97. Asthma	-----	-----	-----	-----	11	9	2	-----	-----	-----	-----	-----	-----	-----	-----	-----
99. Other diseases of the respiratory system (phthisis excepted)	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
V. Diseases of the digestive system.																
102. Diseases of the esophagus	-----	-----	-----	-----	-----	-----	2	-----	-----	-----	-----	-----	-----	-----	-----	-----
103. Ulcer of the stomach	-----	-----	1	-----	-----	3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
104. Other diseases of the stomach (cancer excepted)	-----	-----	-----	-----	3	8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
106. Diarrhea and enteritis (2 years and over)	-----	-----	3	-----	20	18	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
108. Hernia and intestinal obstructions	-----	-----	-----	-----	8	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
109. Other diseases of the intestines	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
110. Acute yellow atrophy of the liver	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
111. Hydatid tumors of the liver	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
112. Cirrhosis of the liver	-----	-----	-----	-----	4	3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
113. Biliary calculi	-----	-----	-----	-----	2	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
114. Other diseases of the liver	-----	-----	-----	-----	1	3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
116. Simple peritonitis (nonpuerperal)	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
VI. Diseases of the genito-urinary system and its adnexa.																
119. Acute nephritis	-----	-----	-----	-----	3	3	-----	-----	-----	-----	-----	-----	1	-----	-----	-----
120. Bright's disease	-----	-----	3	1	25	28	2	-----	-----	-----	-----	-----	1	1	-----	-----
121. Other diseases of the kidneys and their adnexa	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----
123. Diseases of the bladder	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
127. Metritis	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
128. Uterine hemorrhage (nonpuerperal)	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
VII. The puerperal state.																
135. Puerperal hemorrhage	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
VIII. Diseases of the skin and cellular tissue.																
143. Furuncle	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
144. Acute abscess, phlegmon	-----	-----	-----	-----	1	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
XII. Old age.																
154. Senile debility	-----	-----	-----	2	72	130	3	-----	-----	-----	-----	-----	-----	-----	-----	-----

Deaths, *by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905*—Continued.

Cause of death.	Over fifty years.								Unknown.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
XIII. External causes.																
159. Suicide by firearms					1											
160. Suicide by cutting instruments						1										
164. Fractures						1							1		1	
166. Other accidental traumatisms					2	1	1		1					1		
172. Accidental drowning									1				4		3	
176. Other external violence						1										
XIV. Ill-defined diseases.																
179. Causes of death unspecified or ill defined					2	3	1									
Total		1	18	10	512	479	47	1	3		1		16	3	6	
Grand total	1		28		991		48		3		1		19		6	

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
General diseases.									
1. Typhoid fever (abdominal typhus)	2	1	5	1	70	55	6	1	141
4. Intermittent fever and malarial cachexia	5		4		81	43	7		140
4a. Malarial cachexia					16	4	4		24
5. Smallpox	1				3	2			6
6. Measles					1				1
7. Scarlet fever					1				1
8. Whooping cough					5	3			8
9. Diphtheria and croup					5				5
9a. Diphtheria						1			1
10. Influenza					8	3			11
12. Asiatic cholera	2	1	4		28	10	1		46
13. Cholera nostras					1				1
14. Dysentery	3	2	10	1	208	91	50		365
15. Bubonic plague	1				15	14	9		39
17. Leprosy					34	24			58
18. Erysipelas					5	4			9
19. Other epidemic diseases			7		147	123	59	1	337
20. Purulent infection and septicemia			1		9	7			17
21. Glanders and farcy					1				1
22. Malignant pustule					2	1			3
26. Tuberculosis of the larynx					34	28	1		63
27. Tuberculosis of the lungs	1		7	1	625	398	87	2	1,121
28. Tuberculosis of the meninges			1	1	15	14			31
29. Abdominal tuberculosis			1		23	23	1		48
30. Pott's disease					1	1			2
31. Cold abscess and abscess by congestion					1				1
33. Tuberculosis of other organs					3	3			6
34. General tuberculosis					17	6		1	24
35. Scrofula					5	5			10
36. Syphilis					1	1	9		11
38. Gonorrhea (under 5 years)						1			1
39. Cancer and other malignant tumors of the buccal cavity					2	3			5
40. Cancer and other malignant tumors of the stomach and liver					1				1
41. Cancer and other malignant tumors of the peritoneum. intestines, and rectum					1				1
42. Cancer and other malignant tumors of the female genital organs						10			10
43. Cancer and other malignant tumors of the breast				1		2			3
45. Cancer and other malignant tumors of other organs or of organs not specified			1		11	8			20
46. Other tumors (tumors of the female genital organs excepted)					1				1
47. Acute articular rheumatism					10	5			15
48. Chronic rheumatism and gout					32	32			64
50. Diabetes		1		1	3	2			7
53. Leukæmia						2			2
54. Anemia, chlorosis			3	1	10	24		1	39
55. Other general diseases		1			2	1			4
56. Acute and chronic alcoholism	2								2
59. Other chronic poisonings			1				1		2
II. Diseases of the nervous system and of the organs of special sense.									
60. Encephalitis		1	1		4				6
61. Simple meningitis		1	3	2	212	169			387
62. Progressive locomotor ataxia			1		1	1			3
63. Other diseases of the spinal cord			1		2	1			4
64. Congestion and hemorrhage of the brain	1		3	1	57	49	3		114
65. Softening of the brain					2	6			8
66. Paralysis without specified cause					2	2	1		5
67. General paralysis					6	12	1		19
68. Other forms of mental alienation							5	1	6
69. Epilepsy					3	2	1		6
70. Convulsions (nonpuerperal; 5 years and over)						1			1
71. Convulsions (under 5 years)		1		1	1,497	1,236	4	4	2,743
72. Tetanus	1				55	32	1		89
73. Chorea					2				2
74. Other diseases of the nervous system		1			6	4			11
75. Diseases of the eye and its adnexa						2			2
76. Diseases of the ear						1			1

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
III. Diseases of the circulatory system.									
77. Pericarditis					3	4			7
78. Acute endocarditis			3		13	11			27
79. Organic diseases of the heart	3		4	2	35	34	32	1	111
80. Angina pectoris			1		15	25			41
81. Diseases of the arteries, atheroma, aneurism, etc			1	1	6	6	1		15
82. Embolism and thrombosis			1		3	3			7
85. Hemorrhages						1			1
86. Other diseases of the circulatory system							1		1
IV. Diseases of the respiratory system.									
88. Diseases of the larynx			1	1	4	2			8
90. Acute bronchitis			1		209	190	1		401
91. Chronic bronchitis					221	185	14	1	421
92. Broncho-pneumonia	1			1	25	24			51
93. Pneumonia			2		87	20	3	1	113
94. Pleurisy					2	1		1	4
95. Congestion and apoplexy of the lungs				1	13	6	2		22
96. Gangrene of the lungs					1				1
97. Asthma					15	15	5		35
99. Other diseases of the respiratory system (phthisis excepted					2	1			3
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa					2				2
101. Diseases of the pharynx					1	1			2
102. Diseases of the esophagus							5		5
103. Ulcer of the stomach			2		4	3			9
104. Other diseases of the stomach (cancer excepted)					20	16			36
105. Diarrhea and enteritis (under 2 years)	1	1	1	3	168	142	1	3	320
105a. Chronic diarrhea and enteritis (under 2 years)					172	141			313
106. Diarrhea and enteritis (2 years and over)	1		12		163	203	2		381
107. Intestinal parasites					5	4			9
108. Hernia and intestinal obstructions					7	5	2		14
109. Other diseases of the intestines			1		2	1			4
110. Acute yellow atrophy of the liver			1		6		1		8
111. Hydatid tumors of the liver					1				1
112. Cirrhosis of the liver					12	6			18
113. Biliary calculi					2	2			4
114. Other diseases of the liver	2				4	6	2		14
115. Diseases of the spleen					1		1		2
116. Simple peritonitis (nonpuerperal)			1		14	9	2		26
117. Other diseases of the digestive system (cancer and tuberculosis excepted)					1				1
118. Appendicitis and abscess of the iliac fossa	1				2		1		4
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis			1	1	18	25	3		48
120. Bright's disease	1		6	1	48	48	5	1	110
121. Other diseases of the kidneys and their adnexa			1		3				4
122. Calculi of the urinary tract					1				1
123. Diseases of the bladder			1		3	1	1		6
127. Metritis						8			8
128. Uterine hemorrhage (nonpuerperal)						3			3
131. Cysts and other tumors of the ovary						3			3
VII. The puerperal state.									
134. Accidents of pregnancy						2			2
135. Puerperal hemorrhage						33		1	34
136. Other accidents of labor						3			3
137. Puerperal septicemia				1		49			50
138. Puerperal albuminuria and convulsions		1				10			11
139. Phlegmasia alba dolens (puerperal)						1		1	2
140. Other puerperal accidents—sudden death				1		1			2

Deaths, by race, sex, and age, occurring among residents and transients from September 1, 1904, to August 31, 1905—Continued.

Cause of death.	Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VIII. Diseases of the skin and cellular tissue.									
143. Furuncle					2				2
144. Acute abscess, phlegmon					1	2			3
145. Other diseases of the skin and its adnexa			1		2	1			4
IX. Diseases of the organs of locomotion.									
146. Nontuberculous diseases of the bones					3	2			5
X. Malformations.									
150. Congenital malformations (stillbirths excepted)	1				7	5			13
XI. Early infancy.									
151. Congenital debility, icterus and sclerema		1	1		222	180		2	406
152. Other diseases peculiar to early infancy			1		25	21			47
153. Lack of care	1				18	9			28
XII. Old age.									
154. Senile debility				2	72	130	3		207
XIII. External causes.									
155. Suicide by poison			1						1
157. Suicide by hanging or strangulation					1	1			2
159. Suicide by firearms					1				1
160. Suicide by cutting instruments						1			1
164. Fractures					9	1	1		11
166. Other accidental traumatisms	8		1		38	9	2	1	59
167. Burns and scalds				1	5	4	4		14
171. Electric shock					3				3
172. Accidental drowning	2				15	1	4		22
173. Inanition (starvation)				1	3	2			6
174. Absorption of deleterious gases (nonsuicidal)			2						2
175. Other acute poisonings	2		1		4	2			9
176. Other external violence					1	3	1		5
XIV. Ill-defined diseases.									
177. Dropsy					1				1
178. Sudden death					1				1
179. Causes of death unspecified or ill defined	2		1		11	13	2		29
Total	45	13	104	28	5,041	4,123	853	24	9,731
Grand total	58		132		9,164		877		9,731

Of the total number of deaths occurring during the period from September 1, 1904, to August 31, 1905—9,731, including transients—6,028 were of persons less than 16 years of age. Of the remaining 3,703 adults of both sexes, the certificates of death showed that 2,360 had the following occupations:

Sex and occupation.	Number.	Sex and occupation.	Number.
MALE.		MALE—continued.	
Professional:			
Architects, artists, teachers of art, etc	4	Clerical and official:	
Clergymen and priests	6	Bookeepers, clerks, and copyists	117
Engineers and surveyors	1	Bankers, brokers, and officials of companies	4
Journalists	1		
Lawyers	4	Collectors, auctioneers, and agents	8
Musicians and teachers of music	11	Mercantile and trading:	
Teachers (schools)	4	Apothecaries, pharmacists, shopkeepers, etc	42
Other of this class	3		

Sex and occupation.	Number.
MALE—continued.	
Mercantile and trading—Continued.	
Merchants and dealers	100
Hucksters and peddlers	3
Public entertainment:	
Saloon keepers, liquor dealers, bartenders, and restaurant keepers	3
Personal service, police and military:	
Barbers and hairdressers	15
Janitors and sextons	5
Policemen, watchmen, and detectives	19
Soldiers, sailors, and marines	4
Laboring and servant:	
Laborers (not agricultural)	636
Servants	103
Manufacturing and mechanical industry:	
Bakers and confectioners	5
Blacksmiths	9
Boot, shoe, and slipper makers	16
Butchers	2
Cabinet makers and upholsterers	12
Carpenters and joiners	108
Cigar makers and tobacco workers	22
Clock and watch repairers, jewelers, etc	24
Compositors, printers, etc	8
Engineers and firemen (not locomotive)	24
Glass blowers and glass workers	1
Hat and cap makers	2
Iron and steel workers	1
Leather workers	1
Machinists	14
Masons (brick and stone)	5
Mill and factory operatives (textiles)	1
Painters, glaziers, varnishers, etc	17
Tailors	34
MALE—continued.	
Manufacturing and mechanical industry—Continued.	
Tinners and tinware makers	8
Others of this class	8
Agriculture, transportation, and other outdoor:	
Boatmen and canal men	26
Draymen, drivers, and teamsters	64
Farmers, planters, and farm laborers	35
Gardeners, florists, nurserymen, etc	9
Sailors, pilots, fishermen, and oystermen	87 1
Stock raisers, herders, and drovers	1
Others of this class	1
All other occupations	54
Total	1,687
FEMALE.	
Nuns, sisters of charity, etc	5
Teachers in schools	5
Merchants and dealers, etc	82
Hotel and boarding house keepers	2
Laundresses	176
Nurses and midwives	5
Servants	32
Embroiderers	18
Cigar makers and tobacco workers	82
Mill and factory operatives	4
Milliners	2
Dressmakers and seamstresses	210
All other occupations	50
Total	673
Grand total	2,360

Deaths occurring in Bilibid Prison from September 1, 1904, to August 31, 1905.

Disease.	Presidio.			Carcel (Filipinos).		Total.	Condition.				Norte Cemetery.
	Filipinos.		Chinese, male.								
	M.	F.		M.	F.		Married.	Single.	Widower.	Unknown.	
Intermittent fever and malarial cachexia	9			7		16	7	8	1		16
Malarial cachexia				1		1	1				1
Asiatic cholera	15			4		19	5	14			19
Dysentery	39		1	24		64	33	26	3	2	64
Other epidemic diseases	5			9	1	15	11	2		2	15
Tuberculosis of the lungs	139	3		48	3	193	87	95	5	6	193
Abdominal tuberculosis				1		1		1			1
Tuberculosis of other organs	1			1		2	1	1			2
General tuberculosis	4			1	1	6	2	4			6
Cancer and other malignant tumors of the peritoneum, intestines, and rectum	1					1	1				1
Simple meningitis	6			2		8	5	1	1	1	8
Other forms of mental alienation				1		1				1	1
Pericarditis				1		1				1	1
Acute endocarditis	1					1		1			1
Diseases of the arteries (atheroma, aneurism, etc.)	1					1	1				1
Embolism and thrombosis				1		1		1			1
Pneumonia	35			31		66	40	22	3	1	66
Ulcer of the stomach				1		1	1				1
Diarrhea and enteritis (2 years and over)	3			1		4	2	2			4
Acute yellow atrophy of the liver	1					1	1				1
Acute nephritis	1			1	1	3	1	2			8
Bright's disease	3					3	2	1			3
Other diseases of the kidneys and their adnexa	1					1		1			1
Senile debility	4			1	1	6	2	3	1		6
Fractures	1					1	1				1
Other accidental traumatisms	3			21		24	13	9		2	24
Causes of death unspecified or ill defined	1					1	1				1
Total	274	3	1	157	7	442	218	194	14	16	442

Report of prescriptions filled at the municipal dispensaries, from September 1, 1904, to August 31, 1905.

Health districts.	Americans, male, adults.	Foreigners, adults.		Filipinos.				Chinese, male, adults.	Total.
				Adults.		Children.			
		Male.	Female.	Male.	Female.	Male.	Female.		
No. 1, San Nicolas				1,794	1,159	384	316	3	3,656
No. 2, Tondo	42	8		3,470	2,917	784	678	19	7,918
No. 3, Quiapo	3	13		1,504	1,335	627	462	2	3,946
No. 4, Santa Cruz	4	3		823	713	342	289		2,174
No. 5, Sampaloc				1,516	1,290	853	592		4,251
No. 6, Intramuros	4			1,073	1,035	423	264		2,799
No. 7, Ermita, etc	45		43	2,887	1,687	975	1,083		6,720
Total	98	24	43	13,067	10,136	4,388	3,684	24	31,464

NOTE.—Three hundred and fifty-one prescriptions for antiseptic bandages, medicines, etc., were made by the clinic established in the sanitary station of Tondo.

Report of sick and wounded city poor attended by municipal physicians, from September 1, 1904, to August 31, 1905.

Health districts and physicians.	Americans.			Foreigners.			Filipinos.				Chinese, male adults.	Total.
	Adults, male.	Children.		Adults.		Children, male.	Adults.		Children.			
		M.	F.	M.	F.		M.	F.	M.	F.		
No. 1, San Nicolas, Dr. F. Herrera							258	231	96	108		693
No. 2, Tondo, Dr. V. Pantoja	1			1			651	648	258	204		1,763
No. 3, Quiapo, Dr. P. Gabriel	4			5	1		347	407	188	143	2	1,097
No. 4, Santa Cruz, Dr. C. Reyes	5		1	4			274	233	120	96		733
No. 5, Sampaloc, Dr. F. Castañeda							399	630	384	375		1,788
No. 6, Intramuros, Dr. V. Cavanna	5	2		7	3	1	390	463	211	172		1,254
No. 7, Ermita, Paco, etc., Dr. J. B. Cadarrus	2			1	1		415	410	196	201	1	1,227
Total	17	2	1	18	5	1	2,734	3,022	1,453	1,299	3	8,555

Health districts and physicians.	Cured.		Deaths.		Number of visits.
	Male.	Female.	Male.	Female.	
No. 1, San Nicolas, Dr. F. Herrera	180	208	15	12	2,965
No. 2, Tondo, Dr. V. Pantoja	653	641	48	44	5,837
No. 3, Quiapo, Dr. P. Gabriel	159	171	62	57	2,116
No. 4, Santa Cruz, Dr. C. Reyes	210	204	49	35	3,202
No. 5, Sampaloc, Dr. F. Castañeda	275	437	101	78	3,312
No. 6, Intramuros, Dr. V. Cavanna	340	342	40	34	5,503
No. 7, Ermita, Paco, etc., Dr. J. B. Cabarrus	348	362	71	65	3,482
Total	2,165	2,365	386	325	26,417

Report of San Lazaro Hospital.

LEPER DEPARTMENT.

[From September 1, 1904, to August 31, 1905.]

	Europeans.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	
Number of patients in hospital at last report		1	132	91	1		225
Number of patients received			49	19	1		69
Number of patients discharged			1	3	1		5
Number of deaths			34	22			56
Number patients transferred				1			1
Number of patients escaped			5				5
Number of patients remaining in hospital		1	141	84	1		227

INSANE DEPARTMENT.

[From November 13, 1904, to August 31, 1905.]

	Americans.		Europeans.		Filipinos.		Japanese.		Chinese.		Others.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Number of patients received	5	1	4		76	25		1	3		3		118
Number of patients discharged	2	1	2		17	9		1	2				34
Number of deaths					12	1							13
Number of patients transferred	1					2					1		4
Number of patients remaining in hospital	2		2		47	13			1		2		67

Report of Sampaloc Hospital.

WOMEN'S DEPARTMENT.

[From December 9, 1904, to August 31, 1905.]

	Americans.	Europeans.	Filipinos.	Japanese.	Total.
Number of patients in hospital at last report	5		51	16	72
Number of patients received	6	11	438	206	661
Number of patients discharged	11	7	462	215	695
Number of patients transferred		3	5	2	10
Number of patients remaining in hospital		1	22	5	28

Burials from September 1, 1904, to August 31, 1905.

Cemeteries.	Number.	Cemeteries.	Number.
Loma (Government)	3,358	Santa Ana	350
Norte (Government)	2,685	Chinese	387
Paco General (Government)	328	Crematory	46
Santa Cruz	77	American National Cemetery	25
Binondo	243	San Pedro Macati	7
Balic-balic	1,263	Embalmed and shipped	18
Maytubig	429	Preserved in alcohol	1
Malate	526		
Pandacan (Romano)	85	Total	[1]10,041
Pandacan (Filipino)	213		

---

[1] This total includes the remains of 10 persons—2 skeletons which were found and cremated, and 8 bodies brought from the provinces for burial. They are not included in the mortality returns.

Disinterments from September 1, 1904, to August 31, 1905.

Cemeteries.	Number.	Cemeteries.	Number.
Paco	120	Maytubig	1
Santa Cruz	66	Tondo	6
Binondo	5	Santa Ana	1
Malate	4	American National Cemetery	1
Chinese	349	Norte	1
Pandacan (Romano)	1		
Balic-balic	4	Total	559

Report of crematories from September 1, 1904, to August 31, 1905.

Disposition.	Crematories.			Total.
	Palomar.	Santa Cruz.	Paco.	
Animals cremated:				
American horses	144		52	196
American mules	31		26	57
Chinese horses	23		2	25
Chinese mules	18		3	21
Australian horses	46		15	61
Australian ponies			1	1
Native ponies	568		188	756
Carabaos	55		40	95
Cows	278		108	386
Dogs	1,144		418	1,562
Goats	36		10	46
Calves	81		22	103
Cats	793		109	902
Rats	130,119		73,869	203,988
Sheep	2		25	27
Fowls	5,917		493	6,410
Domestic birds	175		38	213
Pigs	241		59	300
Deer	15		15	30
Monkeys	7		225	232
Lions	4			4
Rabbits			1	1
Snakes			2	2
Ferrets	2		3	5
Eagles			1	1
Kangaroos			1	1
Total	139,699		75,726	215,425
Loads cremated:				
House garbage	22,067	323	11,298	33,688
Trade refuse	965	9	450	1,424
Market refuse	3,153	34	555	3,742
Organic matter	366	3	129	498
Waste	1,937	15	4,063	6,015
Coal	5	7		12
Fire wood	16		4	20
Rubbish	4			4
Logs			8	8
Condemned goods	520		241	761
Total	29,033	391	16,748	46,167

Reports of operations of the pail-conservancy system from September 1, 1904, to August 31, 1905.

PAIL COLLECTIONS.

Where cleaned.	Number of installations.	Pails in use.	Pails cleaned.
Private houses	17,897	19,309	559,825
Public buildings	793	2,001	56,121
Midden sheds	644	16,464	333,284
Military buildings	204	1,242	39,048
Provisional pails		2	60
Total	19,538	39,018	988,338

Reports of operations of the pail-conservancy system, etc.—Continued.

VAULTS CLEANED.

Where cleaned.	Cleaned by odorless excavators.		
	Vaults cleaned.	Loads removed.	Gallons removed.
Private houses	2,395	3,881	1,940,500
Public buildings	172	2,827	1,413,500
Military buildings	64	986	493,000
Total	2,631	7,694	3,847,000

Report of action taken on licenses from September 1, 1904, to August 31, 1905.

Business for which license is desired.	License applications approved.	License applications disapproved.	Total applications acted upon.
Aerated waters	8	1	9
Bakeries	32	2	34
Boarding houses	7		7
Chocolate, make and sell	8		8
Cooked foods and native products	18	33	51
Distilleries (perfumes)	8		8
Distilleries (spirits)	4		4
Drug stores	35		35
Drug stores (Chinese)	2		2
Laundries	31	3	34
Liquor, first-class bar	12		12
Liquor, second-class bar	7	1	8
Lodging houses	8		8
Restaurants	133	17	150
Soap, make and sell	29	2	31
Sweetmeats, make and sell	23	1	24
Theaters	16		16
Native wine	41	51	92
Billiard parlors	1	3	4
Blood, to sell	1		1
Candles, make and sell	1	1	2
Cinematographs	1		1
Cleaning and dyeing	5		5
Dancing schools	2	2	4
Hotels	8		8
Leather, tan and sell	4		4
Liquor, first-class restaurant	16		16
Paint, make and sell	1		1
Sausage, make and sell	2		2
Sell roots and herbs	1		1
Undertaking	3	1	4
Vermicelli, make and sell	2		2
Brewers	1		1
Lye water, make and sell	1		1
Refrigerated water, make and sell	1		1
Wafers, make and sell	1		1
Coffins, make and sell	1		1
Salted goods, to sell	1		1
Livery stables		1	1
Liquor, second-class restaurants	1		1
Miscellaneous	5		5
Total	482	119	601

General inspections of houses, premises, and vaults, with improvements ordered by medical inspectors, sanitary inspectors, and assistant sanitary inspectors, from September 1, 1904, to August 31, 1905.

Houses inspected by sanitary inspectors	25,749
Houses reinspected for verification of work ordered	7,764
Houses inspected by assistant sanitary inspectors	253,059
Houses reinspected by assistant sanitary inspectors	72,783
Houses ordered cleaned (written)	28

General inspections of houses, premises, and vaults, etc.—Continued.

Houses ordered cleaned (verbal)	63,830
Houses cleaned	59,371
Houses ordered whitewashed and painted	149
Houses whitewashed and painted	104
Number of disinfections	2,187
Number of houses recommended condemned and removed	419
Number of houses condemned and removed	17
Number of localities where "squatters" are located	580
Number of samples of water, food, etc., sent to laboratory	19
Number of reports from same	5
Number of houses where garbage has not been removed for two days	3,030
Number of persons reported sick to municipal physicians	5,346
Cesspools and vaults ordered cleaned	2,283
Cesspools cleaned	2,215
Yards ordered cleaned	28,615
Yards cleaned	25,299
Yards ordered repaired (repaved, etc.)	35
Yards repaired	33
Number of cholera cases reported by assistant sanitary inspectors	13
Number of cholera cases found alive	28
Number of cholera cases found dead	10
Number of orders issued during the year	1,080
Number of orders complied with during the year	1,004
Number of orders awaiting action	238
Number of orders pending in court	1
Average number of food tiendas in districts	1530.6
Average number of regular inspectors on duty	15.6
Average number of emergency inspectors on duty	.4
Number of leper cases sent to San Lazaro Hospital	20
Number of plague cases reported	43
Number of smallpox cases reported	30
Houses in which traps are set	97,983
Traps set	345,552
Rats caught by rat catchers	55,416
Rats caught by traps	57,589
Rats purchased	97,327
Average number of rat catchers employed	40

Report of disinfections from September 1, 1904, to August 31, 1905.

Causes of disinfections.	Number of disinfections.	Number of contacts.	Causes of disinfections.	Number of disinfections.	Number of contacts.
Cholera	34	255	Measles	1	3
Suspected cholera	8	19	Chicken pox	3	4
Plague	45	183	Chicken cholera	1	---------
Suspected plague	8	15	Plague rats	3	14
Smallpox	37	137	Lymphangitis	35	---------
Suspected smallpox	1	1	Glanders	88	---------
Typhoid fever	15	10	Surra	19	---------
Leprosy	12	12	Rinderpest	1	---------
Tuberculosis	47	4	Exhumations	306	---------
Tetanus	5	---------	Insanitary condition	1,516	---------
Scarlet fever	1	---------			
Erysipelas	1	---------	Total	2,187	657

Amount of vaccine virus distributed by the Board of Health from September 1, 1904, to August 31, 1905.

	Units.
Number on hand August 31, 1904	8,650
Received from laboratory	3,078,550
Total to be accounted for	3,087,200
Distributed as per itemized statement	3,034,900
Remaining on hand August 31, 1905	52,300

Places at which vaccine virus was distributed.

Place.	Units.
City of Manila:	
Vaccine division	284,950
Other institutions	8,300
Total	293,250
Provinces:	
Albay	207,500
Ambos Camarines	50,200
Antique	500
Bataan	9,000
Batanes	2,000
Batangas	97,500
Benguet	13,200
Bohol	6,000
Bulacan	31,200
Cagayan	227,000
Capiz	22,000
Catanduanes	5,000
Cavite	234,000
Cebu	720,000
Ilocos Norte	91,500
Ilocos Sur	70,100
Iloilo	27,050
Isabela	78,000
Laguna	46,050
Lepanto-Bontoc	17,500
Leyte	9,000
Provinces—Continued.	
Marinduque	2,500
Masbate	22,200
Mindoro	4,000
Misamis	21,600
Moro	1,000
Negros Occidental	66,000
Negros Oriental	27,000
Nueva Ecija	13,400
Nueva Vizcaya	1,000
Palawan	1,250
Pampanga	25,300
Pangasinan	121,400
Rizal	131,200
Romblon	66,000
Samar	23,500
Sorsogon	46,000
Surigao	4,000
Tarlac	30,000
Tayabas	29,500
Union	111,500
Zambales	3,000
Zamboanga	26,000
Total	2,741,650
Grand total	3,034,900

Report of vaccinations, city of Manila, from September 1, 1904, to August 31, 1905.

Age and sex.	Vaccinations.			Inspections.						
				Takes.			Nontakes.			
	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Primary.	Secondary.	Total.	Grand total.
Children under 1 year	2,006	67	2,073	609	105	714	753	172	925	1,639
Children between 1 and 2 years	3,308	612	3,920	1,057	335	1,392	1,579	673	2,252	3,644
Children between 2 and 5 years	4,375	1,806	6,181	1,380	860	2,240	2,750	1,712	4,462	6,702
Children between 5 and 12 years	13,386	7,256	20,642	2,379	2,019	4,398	5,323	3,985	9,308	13,706
Adult males	36,568	15,514	52,082	4,525	3,928	8,453	12,765	9,583	22,348	30,801
Adult females	24,501	10,722	35,223	4,051	3,199	7,250	11,110	8,090	19,200	26,450
Total	84,144	35,977	120,121	14,001	10,446	24,447	34,280	24,215	58,495	82,942

Smallpox and plague reports, city of Manila, from September 1, 1904, to August 31, 1905.

BY NATIONALITY.

Race.	Smallpox.				Plague.			
	Cases.		Deaths.		Cases.		Deaths.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans	4		1		1		1	
Filipinos	17	5	3	2	14	16	14	15
Foreigners	1	2						
Chinese					10		9	
Total	22	7	4	2	25	16	24	15

BY DISTRICT AND AGE.

District and age.	Smallpox.		Plague.	
	Cases.	Deaths.	Cases.	Deaths.
Health district:				
No. 1, San Nicolas	2		13	12
No. 2, Tondo	5	2	13	13
No. 3, Quiapo	4	1	4	3
No. 4, Santa Cruz	6	3	5	5
No. 5, Sampaloc	2			
No. 6, Intramuros	7		4	4
No. 7, Ermita, Paco, etc	3		2	2
Total	29	6	41	39
Age:				
Under 1 year	1			
1 year to 10 years	8	4	3	3
10 years to 20 years	6	1	17	16
20 years to 30 years	9	1	12	11
30 years to 40 years	4		4	4
40 years to 50 years			3	3
Over 50 years	1		1	1
Unknown			1	1
Total	29	6	41	39

Reports received of lepers living in the various provinces of the Philippine Islands to August 31, 1905.

Province.	Race.	Number of males.	Number of females.	Children.		Single.		Married.		Widowers.	Widows.	Total.
				Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipino	6	5	1		4	3	1	2			11
Albay	do	38	26	4	4	25	14	7	5	2	3	64
Ambos Camarines	do	54	15	6		23	7	20	7	5	1	69
Antique	do	61	47	17	14	18	15	20	14	6	4	108
Bataan	do	16	6	1	1	10	1	4	2	1	2	22
Batangas	do	20	11			14	5	5	2	1	4	31
Benguet[a]	do	32	11	1	1	1		21	10	9		43
Bohol	do	78	55	5	3	34	39	35	12	4	1	133
Bulacan	do	28	16		1	11	9	15	5	2	1	44
Cagayan	do	53	45			25	16	25	19	3	10	98
Capiz	do	41	18	1		17	11	21	4	2	3	59
Cavite	do	53	24	3	3	31	14	16	3	3	4	77
Cebu	do	431	254	93	38	224	173	105	29	9	14	685
Ilocos Norte	do	76	34	2	2	25	17	45	12	4	3	110
Ilocos Sur	do	148	82	11	2	76	44	45	23	16	13	230
Iloilo	do	108	37	9	1	63	22	24	6	12	8	145
Isabela	do	15	6			5		9	3	1	3	21
Laguna	do	16	12	1	2	7	5	8	3		2	28
Lepanto-Bontoc[a]	do	15	4	1		5	1	8		1	3	19
Leyte	do	64	45	6	6	23	11	32	17	3	11	109
Masbate	do	13	11			7	4	3	4	3	3	24
Misamis	do	42	11	4		18	5	16	3	4	3	53
Moro[a]	do	143	77	3	3	86	44	45	18	9	12	220

[a] Revised reports not received.

Reports received of lepers living in the various provinces, etc.—Continued.

Province.	Race.	Number of males.	Number of females.	Children.		Single.		Married.		Widowers.	Widows.	Total.
				Male.	Female.	Male.	Female.	Male.	Female.			
Negros Occidental	Filipino	24	8	2	2	9	6	12		1		32
Negros Oriental	do	67	53	4	17	34	33	21	1	8	2	120
Nueva Ecija	do	36	17	1		15	7	16	6	4	4	53
Nueva Vizcaya[a]	do	2	4			1		1	2		2	6
Pampanga	do	8	7			4	5	3	2	1		15
Pangasinan	do	44	31		1	16	7	17	17	11	6	75
Rizal	do	68	36	2	4	33	9	33	20		3	104
Romblon	do	4	10			1	3	3	6		1	14
Samar	do	143	115		1	43	50	74	43	26	21	258
Sorsogon	do	80	37		2	40	17	33	12	7	6	117
Surigao[a]	do	2	1							2	1	3
Tarlac	do	19	11	1		3	5	13	6	2		30
Tayabas	do	19	6	1		9	3	8	2	1	1	25
Union	do	30	16	1		10	7	16	4	3	5	46
Zambales	do	25	27			13	14	12	9		4	52
San Lazaro hospitals, Manila	([b])	142	85	24	12	73	44	33	16	12	13	227
Total		2,264	1,316	205	120	1,056	670	825	349	178	177	3,580

[a] Revised reports not received.

[b] Europeans, 1; Filipinos, 225; Chinese, 1.

Reports received of insane persons living in the various provinces of the Philippine Islands to August 31, 1905.

Province.	Race.	Number of males.	Number of females.	Children.		Single.		Married.		Widowers.	Widows.	Total.
				Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipino	34	9	3	4	25	1	6	1		3	43
Albay	do	18	19	2		8	12	5	3	3	4	37
Ambos Camarines	do	66	55	1	4	46	36	15	9	4	6	121
Antique	do	35	31			26	15	7	12	2	4	66
Bataan	do	14	8			7		6	4	1	4	22
Batangas	do	65	59			54	40	7	8	4	11	124
Bohol	do	279	280	11	7	209	212	50	45	9	16	559
Bulacan	do	28	24			19	12	6	8	3	4	52
Cagayan	do	20	17			13	9	6	5	1	3	37
Capiz	do	64	76	1	2	44	36	16	20	3	18	140
Cavite	do	32	27			23	10	6	10	3	7	59
Cebu	do	77	59		1	61	47	14	5	2	6	136
Ilocos Norte	do	69	30			54	18	10	6	5	6	99
Ilocos Sur	do	94	61	1	1	62	38	25	10	6	12	155
Iloilo	do	108	95	1	1	80	49	21	24	6	21	203
Isabela	do	7	4			2	1	5	2		1	11
Laguna	do	71	72	3	5	45	40	18	18	5	9	143
Lepanto-Bontoc	do	10	7			6	5	3		1	2	17
Leyte	do	126	117	5	1	93	84	25	19	3	13	243
Masbate	do	16	25	1	1	10	15	4	6	1	3	41
Mindoro	do	9	7			8	4	1	2		1	16
Misamis	do	70	59	2		47	40	16	10	5	9	129
Negros Occidental	do	69	39	1		49	21	13	10	6	8	108
Negros Oriental	do	130	123	3	1	99	93	21	17	7	12	253
Nueva Ecija	do	28	19		1	24	10	3	6	1	2	47
Nueva Vizcaya	do	4	5			4	1		3		1	9
Pampanga	do	29	27			21	15	8	7		5	56
Pangasinan	do	73	74	2		44	32	16	23	11	19	147
Rizal	do	41	20			30	12	7	4	4	4	61
Romblon	do	22	5			5	2	11	3	6		27
Samar	do	32	28			24	19	4	4	4	5	60
Sorsogon	do	86	65			65	37	17	21	4	7	151
Surigao	do	9	10			5	6	2	2	2	2	19
Tarlac	do	8	8	1		4	5	3	1		2	16
Tayabas	do	150	122	8	3	112	86	24	19	6	14	272
Union	do	36	24			18	16	14	6	4	2	60
Zambales	do	4	2			3	2	1				6
San Lazaro Hospitals, Manila.	([a])	54	13	3		38	11	10	2	3		67
Total		2,087	1,725	49	32	1,487	1,092	426	355	125	246	3,812

[a] Americans, 2; Europeans, 2; Filipinos, 60; Chinese, 1; others, 2.

Reports received of blind persons living in the various provinces of the Philippine Islands to August 31, 1905.

Province.	Race.	Number of males.	Number of females.	Children.		Single.		Married.		Widowers.	Widows.	Total.
				Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipino	44	55	2	------	10	15	18	22	14	18	99
Albay	do	365	301	73	67	177	150	84	47	81	37	666
Ambos Camarines	do	136	116	8	16	64	46	42	19	22	35	252
Antique	do	72	59	9	4	28	28	20	10	15	22	131
Bataan	do	22	21	7	5	8	8	4	1	3	7	43
Batangas	do	92	88	15	7	32	38	32	10	13	33	180
Bohol	do	198	150	46	25	91	69	46	25	15	31	348
Bulacan	do	122	82	14	6	44	35	37	17	27	24	204
Cagayan	do	51	64	3	4	15	14	18	13	15	33	115
Capiz	do	148	148	12	9	54	49	46	27	36	63	296
Cavite	do	52	44	5	4	22	20	15	6	10	14	96
Cebu	do	344	295	40	22	152	133	106	59	46	81	639
Ilocos Norte	do	90	107	5	1	21	36	37	18	27	52	197
Ilocos Sur	do	114	132	13	15	38	37	40	29	23	51	246
Iloilo	do	229	235	28	14	92	89	69	31	40	101	464
Laguna	do	127	107	17	9	40	39	50	23	20	36	234
Leyte	do	326	195	64	22	168	95	57	29	37	49	521
Masbate	do	32	35	2	2	14	13	12	7	4	13	67
Misamis	do	71	48	6	4	43	21	14	12	8	11	119
Negros Occidental	do	59	40	------	2	31	16	21	5	7	17	99
Negros Oriental	do	142	103	14	15	57	34	36	15	35	39	245
Nueva Ecija	do	43	42	3	3	16	13	12	9	12	17	85
Pangasinan	do	166	183	12	15	63	47	64	43	27	78	349
Rizal	do	115	86	30	9	30	26	34	11	21	40	201
Romblon	do	36	29	5	6	17	17	10	4	4	2	65
Sorsogon	do	225	140	25	16	139	94	45	17	16	13	365
Tarlac	do	47	36	1	1	17	10	22	8	7	17	83
Tayabas	do	101	84	------	------	------	------	------	------	------	------	185
Union	do	59	46	3	2	19	9	21	14	16	21	105
Total		3,628	3,071	462	305	1,502	1,096	1,012	531	551	955	6,699

Report of cholera, city of Manila, from August 23 to August 31, 1905.

BY NATIONALITY.

Nationality.	Cases.		Deaths.	
	Male.	Female.	Male.	Female.
Americans	3	1	2	1
Filipinos	30	10	28	10
Foreigners	6	----------	4	----------
Chinese	1	----------	1	----------
Total	40	11	35	11

BY DISTRICT AND AGE.

District and age.	Cases.	Deaths.
Health district:		
No. 1, San Nicolas	5	3
No. 2, Tondo	2	2
No. 3, Quiapo	5	3
No. 4, Santa Cruz	28	27
No. 5, Sampaloc	5	5
No. 6, Intramuros	4	4
No. 7, Ermita	2	2
Total	51	46
Age:		
1 year to 10 years	1	1
10 years to 20 years	11	9
20 years to 30 years	17	15
30 years to 40 years	14	14
40 years to 50 years	5	5
Over 50 years	2	1
Unknown	1	1
Total	51	46

Report of veterinary division of the Bureau of Health for the Philippine Islands from September 1, 1904, to August 31, 1905.

Disposition.	Number.
On arrival in city:	
Number of cattle inspected	32,168
Number of hogs inspected	52,570
Number of carabaos inspected	1,607
Number of horses inspected	2,878
Number of sheep inspected	141
Number of goats inspected	722
Number of other animals inspected	191
Total	90,277
For shipment to provinces:	
Number of cattle inspected	1,125
Number of horses inspected	2
Total	1,127
In Government abattoir:	
Number of cattle slaughtered	20,058
Number of hogs slaughtered	57,574
Number of sheep slaughtered	11
Number of goats slaughtered	9
Total	77,652
Miscellaneous:	
Number of cattle condemned in matadero	27
Number of hogs condemned in matadero	109
Number of horses condemned for glanders	71
Number of horses condemned for surra	108
Number of cattle condemned for epizootic	8
Number of other animals condemned	79
Total	402

REPORT OF CHIEF HEALTH INSPECTOR FROM SEPTEMBER 1, 1904, TO SEPTEMBER 1, 1905.

DEPARTMENT OF THE INTERIOR,
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,
OFFICE OF THE CHIEF HEALTH INSPECTOR,
Manila, P. I., September 1, 1905.

SIR: I have the honor to submit the following statistical report of work pertaining to the office of the Chief Health Inspector for the year ending August 31, 1905:

The tables presented were prepared in part by Dr. Thomas R. Marshall, Chief Health Inspector for the Philippine Islands, before his departure for the United States. I have made no attempt to present an original report, but have followed the scheme formulated by the legal incumbent of the office.

Act No. 159, providing for the establishment of the Board of Health for the Philippine Islands, prescribes that, subject to the sanitary laws of the Islands and the regulations of the Insular Board of Health, the Chief Health Inspector shall make or cause to be made regular inspections of the work of municipal boards of health; of all employees of the Insular Board of Health; the cleaning of sewers, streets, walks, lanes, public squares, and parks; the collection and disposal of garbage, dead animals, night soil, and contents of cesspools; of the sanitation of houses, factories, mills, schools, prisons, dairies, markets, meat shops, bakeries, public water supplies, public bath houses, wells, cisterns, cemeteries, undertaking establishments, asylums, jails, barracks, barrooms, theaters, and all public institutions and places of public resort.

The work of cleaning sewers, streets, and parks, and the collection and disposal of garbage, night soil, and contents of cesspools in the city of Manila is carried on under the direction of the city engineer through the agency of the several divisions of his department, and is performed in a very satisfactory, business-like manner.

The city authorities control the markets and public slaughterhouses. Taking into consideration the surrounding conditions, these establishments are remarkably clean. It is hoped that the Municipal Board may provide suitable food screens and enforce their use by all venders in the markets, in order that the practice, so generally prevalent, of handling the foods may be broken up and the sources of infection by flies eliminated.

SANITARY SUPERVISION OF THE CITY OF MANILA.

The city of Manila is divided into seven health districts, each district having a health station and its quota of sanitary employees, the chief officer being a medical inspector. The duties of the medical inspector are various. Primarily he is on guard to protect his district from the invasion of quarantinable diseases, and secondarily as the representative of the Central Board of Health, and is expected to employ every means within his power to improve the health and sanitary conditions of those under his supervision.

Each station is required to send in a daily report giving information on the following subjects: The number of houses inspected by the sanitary inspector; houses reinspected for verification of work ordered; houses where work ordered has been completed; houses inspected by assistant sanitary inspectors; houses ordered cleaned; houses cleaned; houses ordered whitewashed or painted; houses whitewashed or painted; houses, interiors, canals, etc., disinfected; houses where garbage has not been removed for two days; number of persons reported sick to the municipal physician; cesspools and vaults ordered cleaned; cesspools and vaults cleaned; yards ordered cleaned; yards cleaned; yards ordered repaired, repaved, etc., yards repaired, repaved, etc., houses in which traps are set; houses in which bane is placed; traps set; plates with ratsbane placed; rats caught by rat catchers; rats caught by traps; rats caught by poison; rats purchased; rat catchers employed.

In addition to the foregoing, a daily record is required of the number of sick visited, the number of diagnoses of quarantinable diseases, number of criminal cases investigated, number of accident cases attended, number of sick animals within their district, the work of midwives, the number of municipal prescriptions written, and such other special reports as may be required.

Medical inspectors are also charged with the duties of enforcing within their districts the provisions of Act No. 310, regulating the practice of medicine and surgery in the Philippine Islands, and they are required, also, to report all unregistered pharmacists and dentists, and to visit drug stores and dental offices from time to time and see that the respective laws are complied with, and to report upon the sanitary conditions.

From each station is supervised the sanitary condition of markets, tiendas, and other places within the district where food and drink is kept for sale, and also of other businesses or occupations affecting the public health.

Considerable attention has been given to the spreading of oil for the purpose of destroying larvæ of mosquitoes as a prophylactic measure against malaria, and to the work of rat catching as a prophylactic measure against bubonic plague. It is the consensus of opinion among medical men the world over that rats are factors in the spread of this dangerous disease.

At the third annual conference of the State and Territorial health officers with the United States Public Health and Marine-Hospital Service, convened at Washington, D. C., May 15, 1905, Dr. Edmund Souchon, of New Orleans, introduced the following resolution, which was adopted by the conference:

"Whereas the eradication of plague from California through the united and harmonious efforts of the United States Public Health and Marine-Hospital Service, State and local boards of health by means of rat extermination and extensive sanitary improvements throughout the affected area, is an accomplished fact: Therefore, be it

"*Resolved*, That this conference of the United States Public Health and Marine-Hospital Service with the State boards of health express its entire satisfaction with the methods and the results obtained."

CHOLERA.

Cholera has again reappeared in Manila after a respite of nearly eighteen months. The Board of Health for the Philippine Islands on April 27, 1904, declared by resolution that:

"Whereas cases of Asiatic cholera have occurred in but three provincial towns of the Philippine Islands since February 8, 1904; and

"Whereas only one case of Asiatic cholera has been reported as occurring at any place in the Philippine Islands since March 8, 1904; and

"Whereas the city of Manila was declared on March 23 to be free from the infection of Asiatic cholera: On motion,

"*Resolved*, That the Islands comprising the Philippine Archipelago be, and are hereby, declared to be free from the infection of Asiatic cholera; and be it further

"*Resolved*, That the Commissioner of Public Health be directed to send a copy of these resolutions to the honorable the Secretary of the Interior, the Municipal Board, the United States Public Health and Marine-Hospital Service, and the Collector of Customs."

From the date specified in the resolution until August 23, 1905, so far as is known, the country remained free from the disease. On August 23, 1905, the disease reappeared in Manila, probably having been brought in from China through commercial intercourse. The entire sanitary force is, at this time, engaged in combating the epidemic. The Board of Health is much better equipped for handling the sick than it was during the epidemic of 1902–1904. The new San Lazaro infectious-disease hospital has been opened along modern lines. Trained nurses and skilled attendants are constantly on duty.

From the 23d to the 31st of August there were 51 cases with 46 deaths. The epidemic has just begun as this report closes. What it may bring forth or what the results may be at this time can not be surmised.

The nature and extent of the sanitary work supervised by this office may be more readily understood from the following tables:

Sanitary work accomplished, by health stations.

Nature of work.	Station.							Total.
	A.	C.	F.	G.	I.	J.	L.	
Houses inspected by sanitary inspectors	3,007	3,253	4,383	4,834	4,066	3,163	3,043	25,749
Houses inspected, for verification of work	290	960	1,632	1,400	107	1,940	1,435	7,764
Houses inspected by assistant sanitary inspectors	46,643	69,426	22,231	24,845	34,286	26,791	27,837	252,059
Houses ordered cleaned (written)			1		1		26	28
Houses ordered cleaned (verbal)	7,394	25,154	7,209	6,855	1,960	10,110	5,148	63,830
Houses cleaned	7,389	24,428	4,419	6,784	1,896	10,110	3,495	58,471
Houses ordered whitewashed or painted	2	6	79	5	14	3	40	149
Houses whitewashed or painted	5	1	52			3	43	104
Houses, etc., disinfected	59	438	110	513	39	568	454	2,181
Houses recommended to be condemned or removed	83	115	100		115		6	419
Houses condemned and removed	4	4			9			17
Houses garbage not removed for two days		72	2	1	1	499	2,455	3,030
Orders complied with	634	16	235	10	11	31	67	1,004
Orders waiting action		15	143	21	4	16	39	238
Orders pending in court				1				1
Cesspools and vaults ordered cleaned	98	53	281	1,547	16	109	179	2,283
Cesspools and vaults cleaned	85	30	269	1,545	4	119	163	2,215
Yards ordered cleaned	1,915	7,890	2,943	3,346	854	4,818	6,849	28,615
Yards cleaned	1,914	7,565	2,208	3,332	831	4,818	4,631	25,299
Yards ordered repaired (repaved, etc.)	1	4					30	35
Yards repaired							33	33
Cholera cases reported by assistant sanitary inspectors		5				8		13
Cholera cases found "alive"	3	3	5	6	2	7	2	28
Cholera cases found "dead"	1	2		3	3	1		10
Plague cases reported	13	14	6	4		4	2	43
Smallpox cases reported	2	6	2	6	2	8	4	30
Leper cases sent to San Lazaro		7	2	1	5	3	2	20
Orders issued during the year	645	32	249	12	13	37	92	1,080
Samples of water, foods, etc., sent to laboratory						5	14	19
Reports from same						5		4
Persons reported sick by municipal physicians	416	1,627	256	330	1,193	950	574	5,346

Rats caught by rat catchers during the year.

Month.	Station.							Total.
	A.	C.	F.	G.	I.	J.	L.	
1904.								
September	2,535	3,057	1,458	1,744	868	1,687	699	12,048
October	3,036	3,057	1,122	1,862	1,558	1,365	1,699	13,699
November	3,290	2,907	1,418	1,939	1,795	1,662	1,466	14,471
December	4,010	2,557	1,744	2,009	1,675	2,062	1,744	15,801
1905.								
January	3,480	2,540	2,429	2,752	1,892	1,945	1,957	16,995
February	4,362	2,952	2,637	3,640	1,918	1,802	2,298	19,609
March	4,431	3,009	3,040	4,826	1,798	1,533	1,749	20,386
April	2,702	5,525	935	1,692	6	77	0	10,937
May	4,296	8,504	810	1,637	373	173	194	15,987
June	5,129	9,233	1,196	2,121	158	635	497	18,969
July	5,161	10,476	1,496	4,245	69	740	682	22,869
August	6,027	12,733	2,345	4,711	16	867	1,856	28,555
Total	48,459	66,550	20,630	33,178	12,126	14,548	14,841	210,325

Cases detected and disposed of, by health stations, during the year.

STATION A, HEALTH DISTRICT NO. 1.

Disease.	1904.				1905.								Total.
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	
Cholera												5	5
Plague					2	1	6	1	1	1	1		13
Smallpox							1			1			2
Total													20

STATION C, HEALTH DISTRICT NO. 2.

Disease.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Cholera												2	2
Plague	1				1	2	1	1	1	3	1	2	13
Smallpox	2			2					1				5
Leprosy					1		3		1			1	6
Total													26

STATION F, HEALTH DISTRICT NO. 3.

Disease.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Cholera												5	5
Plague						1	1		1	1			4
Smallpox					2	1		1					4
Leprosy			1				1						2
Total													15

STATION G, HEALTH DISTRICT NO. 4.

Disease.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Cholera												28	28
Plague				1	1		1			1		1	5
Smallpox	2					2	1			1			6
Leprosy												1	1
Total													40

Cases detected and disposed of, by health stations, during the year—Continued.

STATION I, HEALTH DISTRICT NO. 5.

Disease.	1904.				1905.								Total.
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	
Cholera												5	5
Smallpox	1						1						2
Leprosy				2			1		1			1	5
Total													12

STATION J, HEALTH DISTRICT NO. 6.

Disease.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Cholera												4	4
Plague					3							1	4
Smallpox					2	2		2		1			7
Leprosy				1		1						1	3
Total													18

STATION L, HEALTH DISTRICT NO. 7.

Disease.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Cholera												2	2
Plague							1			1			2
Smallpox					1		1		1				3
Leprosy							1		1				2
Total													9

Report of vaccinations accomplished in Manila during the year.

Item.	1904.				1905.					Total.
	September.	October.	November.	December.	January.	February.	March.	April.	July.	
Vaccinations accomplished	24,391	19,247	25,725	24,418	10,594	2,325	12,327	1,094	369	120,490
Number of takes	3,482	5,377	2,346	2,901	7,501		1,267	1,578		24,447
Number of nontakes	9,716	12,080	6,158	7,231	18,659		2,617	2,089		58,500

Vaccinations by provincial vaccinators under the direction of a medical inspector of the Board of Health.

Province.	Number vaccinated.	Number of takes.	Number of nontakes.	Date.
Cagayan	76,545	16,782	49,914	Mar. 24 to Apr. 10, 1905, and Aug. 29, 1904, to Dec. 26, 1904.
Isabela	67,488	19,763	40,701	Dec. 5, 1904, to Mar. 15, 1905.
Ilocos Norte	69,200	12,600	33,640	May 8 to Aug. 5, 1905.
La Union	31,494	7,891	31,910	Mar. 28 to June 26, 1905.
Cavite	136,023	41,109	64,645	Mar. 6 to Aug. 27, 1905.
Rizal	123,889	29,831	68,601	Jan. 24 to Aug. 31, 1905.
Cebu	263,297	100,956	108,059	Sept. 1, 1904, to Aug. 31, 1905.
Romblon	21,348			Apr. 12 to 25, 1905.
Total	778,779	228,443	397,470	

Vaccinations by presidents of provincial boards of health.

Province.	Number vaccinated.	Number of takes.	Number of non-takes.	Date.
Union	1,397			February, 1905.
Lepanto-Bontoc	930			July, 1905.
Pangasinan	24,310	11,089	7,098	Apr. 3 to June 30, 1905.
Zambales	930	250	680	Nov. 1, 1904, to Mar. 1, 1905.
Bataan	1,663	930	983	Feb. 1 to June 1, 1905.
Batangas	87,344			Nov., 1904, to June, 1905.
Tayabas	4,856			Jan. 1 to Mar. 1, 1905.
Ambos Camarines	776			February, 1905.
Albay	371	43	328	May, 1905.
Sorsogon[a]	35,054	21,532	13,533	Sept. 1, 1904, to July 1, 1905.
Negros Occidental	147			
Bohol	7,145			March, 1905.
Total	164,923	33,844	22,617	

[a] Approximate.

INOCULATIONS AGAINST BUBONIC PLAGUE.

During the past year only 50 preventive (prophylactic) inoculations were made. Of this number 20 were made in January, 6 in February, and 24 in August, 1905.

No curative (antitoxine) inoculations were made in the districts during the past year.

Extermination and prevention of mosquitoes.

STATION A.

Month.	Quantity of oil used.	Area oiled.	Canals, pools, cesspools, wells, drains, etc., oiled.
	Ounces.	*Square feet.*	
September, 1904	1,273		544
October, 1904	282		276
December, 1904	132		285
January, 1905	741		555
February, 1905	785		473
March, 1905	1,208		909
April, 1905	270		98

STATION C.

	Ounces.	*Square feet.*	
December, 1904	3,200		233
January, 1905	4,224		695
February, 1905	1,024		397
March, 1905	2,048		595
April, 1905	256		39

STATION F.

	Ounces.	*Square feet.*	
September, 1904	13,960	24,000	33
December, 1904	296		13
January, 1905	12,160		221
February, 1905	7,680	12,000	63
March, 1905	5,680		63

Extermination and prevention of mosquitoes—Continued.

STATION G.

Month.	Quantity of oil used.	Area oiled.	Canals, pools, cesspools, wells, drains, etc., oiled.
	Ounces.	*Square feet.*	
September, 1904	800	15,000	
December, 1904	384		33
January, 1905	2,816	23,600	19
February, 1905	5,124	76,800	
March, 1905	4,480	67,200	
April, 1905	640	9,600	40
May, 1905	448		
August, 1905	128		3

STATION I.

Month.	Quantity of oil used.	Area oiled.	Canals, pools, cesspools, wells, drains, etc., oiled.
	Ounces.	*Square feet.*	
October, 1904	3,840		500
December, 1904	6,400		500
January, 1905	2,560		560
February, 1905	1,280		

STATION J.

Month.	Quantity of oil used.	Area oiled.	Canals, pools, cesspools, wells, drains, etc., oiled.
	Ounces.	*Square feet.*	
September, 1904	4,864		1,269
October, 1904	4,864		856
December, 1904	2,848		888
January, 1905	3,744		560
February, 1905	1,920		524
March, 1905	5,248		1,122
April, 1905	932		60
June, 1905	1,920	6,000	
July, 1905	640		520
August, 1905	3,680		204

STATION L.

Month.	Quantity of oil used.	Area oiled.	Canals, pools, cesspools, wells, drains, etc., oiled.
	Ounces.	*Square feet.*	
September, 1904	12,800		488
December, 1904	5,824		406
January, 1905	3,840		147
February, 1905	7,680		300
March, 1905	5,824		392
April, 1905	640		65
May, 1905	640		50
June, 1905	1,280		65
July, 1905	128		15

CONSOLIDATED REPORT OF EXTERMINATION AND PREVENTION OF MOSQUITOES.

Month.	Quantity of oil used.	Area oiled.	Canals, pools, cesspools, wells, drains, etc., oiled.
	Ounces.	*Square feet.*	
September, 1904	33,697	29,000	2,354
October, 1904	8,986		1,182
December, 1904	19,084		2,298
January, 1905	28,805	23,600	2,757
February, 1905	25,493	88,800	1,786
March, 1905	24,488	67,200	3,081
April, 1905	2,738	9,600	247
May, 1905	1,048		90
June, 1905	3,200	6,000	
July, 1905	768		595
August, 1905	3,808		248
Total	152,115	224,200	14,528

Reports of municipal physicians from September 1, 1904, to August 31, 1905.

DR. FLORENTINO HERRERA, HEALTH DISTRICT NO. 1.

Month.	Number of visits made to poor.	Number of poor treated at station.	Number of prescriptions written.	Number of labor cases attended.	Number of accident cases attended.	Number of dressings applied.	Number of cases discharged cured.	Number of cases remaining.
1904.								
September	293	----------	249	----------	----------	----------	36	20
October	265	40	262	----------	----------	2	33	15
November	240	25	327	1	----------	----------	25	15
December	278	9	361	----------	----------	3	30	24
1905.								
January	329	9	430	----------	----------	22	40	10
February	227	8	251	1	----------	2	26	22
March	262	18	316	----------	----------	4	34	21
April	229	21	269	----------	----------	2	34	14
May	270	17	292	1	----------	4	36	18
June	166	12	199	----------	----------	----------	30	13
July	210	12	259	----------	----------	2	31	18
August	205	24	222	----------	----------	1	33	14
Total	2,974	195	3,437	3	----------	42	388	----------

DR. V. PANTOJA, HEALTH DISTRICT NO. 2.

1904.								
September	352	----------	536	----------	----------	----------	119	22
October	455	----------	584	----------	----------	----------	145	9
November	317	----------	552	----------	----------	----------	104	8
December	269	----------	463	----------	----------	----------	99	38
1905.								
January	445	41	547	----------	----------	----------	94	47
February	535	49	632	----------	----------	----------	121	41
March	225	76	475	----------	----------	----------	110	34
April	435	63	494	----------	1	----------	79	22
May	558	71	629	----------	----------	----------	92	34
June	516	92	600	----------	----------	----------	104	43
July	595	75	483	----------	1	----------	99	58
August	522	34	453	----------	1	----------	125	16
Total	5,224	501	6,448	----------	3	----------	1,291	----------

DR. PROCESO GABRIEL, HEALTH DISTRICT NO. 3.

1904.								
September	158	7	230	----------	1	14	35	7
October	143	15	270	----------	3	23	24	5
November	164	24	299	----------	4	20	31	12
December	199	19	278	1	3	5	44	6
1905.								
January	156	25	315	----------	2	2	26	10
February	145	43	242	----------	3	26	16	12
March	204	62	284	----------	3	30	40	12
April	158	54	239	1	6	25	23	11
May	118	46	219	----------	4	6	18	4
June	175	47	286	----------	8	16	28	6
July	186	54	346	2	4	17	25	8
August	212	45	348	----------	1	14	35	14
Total	2,018	441	3,356	4	42	198	345	----------

Reports of municipal physicians from September 1, 1904, to August 31, 1905—Continued.

DR. CANUTO REYES, HEALTH DISTRICT NO. 4.

Month.	Number of visits made to poor.	Number of poor treated at station.	Number of prescriptions written.	Number of labor cases attended.	Number of accident cases attended.	Number of dressings applied.	Number of cases discharged cured.	Number of cases remaining.
1904.								
September	276	7	191	52			26	18
October	351	8	317	69	4	30	37	13
November	274	6	198	56	5	47	36	15
December	249	2	180	48	1	1	30	11
1905.								
January	182		93	44		7	28	10
February	136	1	84	40		6	22	13
March	219	4	114	59	1	15	48	7
April	207	9	100	42	3	58	19	22
May	291	9	162	70	2	66	48	17
June	408	20	155	81	7	142	35	31
July	414	30	198	100	7	68	68	14
August	245	14	187	71	4	81	36	13
Total	3,252	110	1,874	732	34	471	428	

DR. FRANCISCO CASTAÑEDA, HEALTH DISTRICT NO. 5.

Month.	Number of visits made to poor.	Number of poor treated at station.	Number of prescriptions written.	Number of labor cases attended.	Number of accident cases attended.	Number of dressings applied.	Number of cases discharged cured.	Number of cases remaining.
1904.								
September	348	95	397			26	75	26
October	232	64	318	3	1	1	58	20
November	241	137	312			14	54	34
December	295	52	417	3		4	68	40
1905.								
January	196	42	301	1		1	70	23
February	216	42	302	1	1	21	58	18
March	275	80	322		2	52	49	24
April	214	44	393	1		8	52	21
May	317	85	411		1	44	60	26
June	237	93	302			8	49	25
July	210	108	405	1		1	65	32
August	277	100	297	2	1	1	60	20
Total	3,058	942	4,177	12	6	181	718	

DR. VICENTE CAVANNA, HEALTH DISTRICT NO. 6.

Month.	Number of visits made to poor.	Number of poor treated at station.	Number of prescriptions written.	Number of labor cases attended.	Number of accident cases attended.	Number of dressings applied.	Number of cases discharged cured.	Number of cases remaining.
1904.								
September	462	12	199	1			43	14
October	371	22	225		1	41	39	15
November	367	36	220	2	2	23	31	23
December	440	36	259			13	44	32
1905.								
January	498	49	249	1		6	54	23
February	506	51	287	1	6	86	57	35
March	530	62	253		4	67	60	27
April	420	54	208		5	54	51	29
May	635	62	261	1	2	52	77	21
June	470	69	248	1	2	65	85	27
July	391	69	211	3	5	45	72	27
August	526	49	194	3	3	20	69	25
Total	5,616	571	2,814	13	30	472	682	

Reports of municipal physicians from September 1, 1904, to August 31, 1905—Continued.

DR. JUAN CABARRUS, HEALTH DISTRICT NO. 7.

Month.	Number of visits made to poor.	Number of poor treated at station.	Number of prescriptions written.	Number of labor cases attended.	Number of accident cases attended.	Number of dressings applied.	Number of cases discharged cured.	Number of cases remaining.
1904.								
September	265	42	388	----------	6	18	62	10
October	263	51	460	----------	8	25	54	7
November	243	47	444	----------	7	29	50	16
December	332	77	674	----------	16	87	57	10
1905.								
January	333	87	601	----------	14	44	63	30
February	270	63	407	----------	13	23	52	10
March	358	79	788	----------	21	72	74	12
April	302	57	415	1	14	29	57	14
May	235	61	375	----------	14	18	51	11
June	296	79	411	----------	12	14	14	16
July	301	67	353	2	4	7	69	10
August	277	68	488	----------	6	26	49	18
Total	3,475	778	5,804	3	135	392	652	----------

DR. TEE HAN KEE, AT LARGE.

Month.	Number of visits made to poor.	Number of poor treated at station.	Number of prescriptions written.	Number of labor cases attended.	Number of accident cases attended.	Number of dressings applied.	Number of cases discharged cured.	Number of cases remaining.
1904.								
September	89	24	41	1	4	15	10	12
October	120	29	32	----------	3	14	6	10
November	96	34	43	----------	4	21	13	9
December	118	26	47	----------	2	8	17	7
1905.								
January	102	17	29	----------	4	13	14	11
February	87	36	52	1	1	3	12	16
March	132	30	87	----------	5	26	19	14
April	91	27	75	----------	4	29	15	11
May	102	25	67	----------	9	38	16	9
June	109	22	71	----------	7	31	13	7
July	104	52	83	----------	11	40	17	16
August	98	25	77	----------	10	27	14	13
Total	1,248	347	704	2	64	265	166	----------

Services rendered by municipal free dispensaries from September 1, 1904, to August 31, 1905.

MUNICIPAL FREE DISPENSARY NO. 1 (QUIAPO).

Month.	Number of prescriptions filled.				Number of persons to whom medicine was given.	Number of persons receiving surgical dressings.
	Municipal physicians.	Private physicians.	Medical inspectors.	Total.		
1904.						
September	1,013	----------	14	1,027	385	21
October	936	108	33	1,077	418	29
November	1,019	191	25	1,235	428	26
December	1,028	162	17	1,207	501	29
1905.						
January	930	164	19	1,113	441	26
February	886	175	3	1,064	373	25
March	952	78	4	1,034	361	39
April	920	48	10	978	354	44
May	1,025	44	12	1,081	395	51
June	961	78	6	1,045	339	69
July	1,134	39	8	1,181	401	42
August	1,027	32	12	1,071	403	61
Total	11,831	1,119	163	13,113	4,799	462

Services rendered by municipal free dispensaries, etc.—Continued.

MUNICIPAL FREE DISPENSARY NO. 2 (TONDO).

Month.	Number of prescriptions filled.				Number of persons to whom medicine was given.	Number of persons receiving surgical dressings.
	Municipal physicians.	Private physicians.	Medical inspectors.	Total.		
1904.						
September	785	21	29	835	241	74
October	848	58	6	912	239	114
November	881	81	14	976	240	107
December	826	62	125	1,013	90	270
1905.						
January	991	46	35	1,072	104	266
February	891	35	41	967	105	273
March	900	54	121	1,075	269	76
April	763	43	128	934	215	25
May	926	17	162	1,105	267	23
June	793	30	156	979	257	25
July	742	23	268	1,033	310	23
August	690	24	367	1,081	311	22
Total	10,036	494	1,452	11,982	2,648	1,298

MUNICIPAL FREE DISPENSARY NO. 3 (PACO).

Month.	Municipal physicians.	Private physicians.	Medical inspectors.	Total.	Number of persons to whom medicine was given.	Number of persons receiving surgical dressings.
1904.						
September	396	----------	27	423	100	6
October	470	----------	104	574	104	9
November	444	1	233	678	162	23
December	674	10	116	800	140	21
1905.						
January	601	11	39	651	155	15
February	407	6	20	433	117	15
March	791	5	22	818	135	20
April	425	7	11	443	101	14
May	349	11	38	398	121	17
June	416	6	148	570	116	16
July	353	20	29	402	127	6
August	505	4	21	530	117	18
Total	5,831	81	808	6,720	1,496	175

Consolidated report of services rendered by municipal free dispensaries during the year.

Month.	Number of prescriptions filled.	Number of persons to whom medicine was given.	Number of persons receiving surgical dressings.
1904.			
September	2,285	726	101
October	2,563	761	152
November	2,889	830	156
December	3,020	731	320
1905.			
January	2,836	700	307
February	2,464	595	318
March	2,927	765	185
April	2,355	670	83
May	2,584	783	91
June	2,594	712	110
July	2,616	838	71
August	2,682	831	96
Total	31,815	8,942	1,985

Prescriptions filled from each district during the year.

Month.	Health district.							Total.
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	
1904.								
September	253	582	252	191	397	187	423	2,285
October	282	628	310	272	301	196	574	2,563
November	370	605	411	235	383	207	678	2,889
December	405	582	354	176	454	225	800	2,996
1905.								
January	450	579	424	146	322	235	651	2,807
February	258	673	341	121	334	276	433	2,436
March	353	670	323	143	334	241	818	2,882
April	285	608	260	124	403	191	443	2,314
May	294	770	239	196	413	238	398	2,548
June	213	711	298	210	313	226	570	2,541
July	265	731	365	214	190	412	402	2,579
August	228	779	369	146	407	165	530	2,624
Total	3,656	7,918	3,946	2,174	4,251	2,799	6,720	[a]31,464

[a] Number of prescriptions not classified, 351; grand total, 31,815.

District midwife report.

Health district.	Number of midwives.	Number of births reported.	Number of births attended.
No. 1	1	355	127
No. 2	2	962	414
No. 3	1	188	99
No. 4	1	184	80
No. 5	1	585	109
No. 6	1	87	58
No. 7	1	618	304
Total	8	2,879	1,191

Health-district population of Manila.

Health district No. 1	53,573
Health district No. 2	39,045
Health district No. 3	18,487
Health district No. 4	43,040
Health district No. 5	20,279
Health district No. 6	17,463
Health district No. 7	28,054

Quarantinable diseases for past four years.

Date.	Smallpox.		Bubonic plague.		Cholera.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
September, 1901, to September, 1902	56	22	29	30	3,933	3,064
September, 1902, to September, 1903	101	17	198	166	1,179	894
September, 1903, to September, 1904	78	32	94	87	469	428
September, 1904, to September, 1905	29	6	41	39	51	46

License applications.

Number of license applications acted on	601
Number approved	482
Number disapproved	119

Report of service rendered by corral.

Number of plague cases transferred	43
Number of cholera cases transferred	51
Number of smallpox cases transferred	29
Number of leper cases transferred	20

Disinfecting service.

Number of houses disinfected	2, 181
Number of places disinfected:	
Insanitary condition	1,516
Glanders	88
Surra	19
Lymphangitis	35
Cattle stables, to prevent rinderpest	1

Dead-wagon service.

Number of bodies transferred to morgue	375

Report of inspections in connection with public prostitutes from September 1, 1904, to August 31, 1905.

WOMEN'S DEPARTMENT, STATION I, HEALTH DISTRICT NO. 5.

Nature of work.	1904.				1905.								Total.
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	
Total number of examinations	1, 062	977	1, 317	1, 113	1, 104	1, 039	1, 315	999	1, 317	1, 088	1, 062	1, 393	13, 776
Total number of slides taken	1, 062	975	1, 315	1, 118	1, 103	1, 039	1, 306	985	1, 304	1, 087	1, 083	1, 375	13, 696
Number of women examined:													
Americans	15	17	20	18	22	19	23	26	31	28	24	27	270
Filipinos	112	109	122	130	120	118	184	121	143	135	124	148	1, 516
Japanese	172	174	186	183	182	177	184	177	189	183	183	188	2, 178
Russians	2	2	2	3	3	3	2	2	2	2	2	2	27
Spanish	3	3	1	1	1	1	1	----	----	----	----	----	11
Others	14	13	13	11	11	11	10	10	8	8	8	8	125
Total	318	318	344	346	339	329	354	336	373	356	341	373	4, 127
Number of women sent to Sampaloc Hospital	82	72	64	74	66	55	109	68	84	57	73	67	871
Number of gonorrhea cases	71	64	48	65	58	49	70	55	54	37	52	49	672
Number of chancroid cases	11	12	8	9	8	6	29	9	26	16	11	16	161
Number of syphilitic cases	----	----	1	----	----	----	----	----	----	----	----	----	1

Professional work accomplished in Manila by medical inspectors.

STATION A.

Nature of work.	1904.				1905.								Total
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	
Number of sick visited	----	12	16	6	8	5	16	12	12	7	4	15	108
Number of diagnoses made of quarantinable diseases	3	----	----	----	2	1	7	----	1	1	1	4	20
Number of criminal cases investigated	----	----	----	----	----	----	----	2	----	----	----	1	3
Number of accident cases attended	----	----	----	----	----	----	----	----	3	6	----	2	11

Professional work accomplished in Manila by medical inspectors—Continued.

STATION C.

Nature of work.	1904.				1905.								Total.
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	
Number of sick visited	6	5	18	52	34	32	63	60	64	82	113	103	632
Number of diagnoses made of quarantinable diseases	2	----	----	----	1	2	----	2	3	3	1	6	20
Number of criminal cases investigated	----	----	1	----	----	----	----	----	----	----	----	----	1
Number of accident cases attended	----	----	2	2	----	1	----	----	----	----	----	----	5

STATION F.

Nature of work.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Number of sick visited	1	3	5	6	1	----	2	2	4	6	4	2	36
Number of diagnoses made of quarantinable diseases	----	----	----	----	1	----	4	1	----	3	3	5	17
Number of criminal cases investigated	----	----	----	----	----	----	----	----	----	----	1	----	1
Number of accident cases attended	----	5	2	----	----	----	----	3	1	----	4	5	20

STATION G.

Nature of work.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Number of sick visited	7	6	5	10	----	1	5	2	3	4	4	1	48
Number of diagnoses made of quarantinable diseases	1	----	----	1	----	----	4	----	----	1	----	13	20
Number of criminal cases investigated	----	----	----	----	----	----	----	----	----	----	----	----	----
Number of accident cases attended	----	----	----	----	----	----	2	1	----	1	----	----	4

STATION I.

Nature of work.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Number of sick visited	10	20	25	32	28	30	11	3	11	50	27	12	259
Number of diagnoses made of quarantinable diseases	1	----	----	----	----	----	1	2	1	1	----	6	12
Number of criminal cases investigated	1	----	----	----	6	9	7	2	1	----	----	2	28
Number of accident cases attended	----	----	----	1	----	----	----	----	----	----	1	----	2

STATION J.

Nature of work.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Number of sick visited	22	20	25	32	48	65	58	60	55	50	58	45	538
Number of diagnoses made of quarantinable diseases	2	----	----	6	6	5	3	4	3	2	1	15	47
Number of criminal cases investigated	4	8	2	2	4	2	2	6	7	2	3	5	47
Number of accident cases attended	8	7	9	10	12	7	5	5	6	4	2	2	77

STATION L.

Nature of work.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Number of sick visited	10	30	40	30	20	5	10	10	8	26	20	30	239
Number of diagnoses made of quarantinable diseases	1	----	----	----	1	1	1	----	----	----	----	3	7
Number of criminal cases investigated	----	1	----	----	----	----	----	----	----	----	----	----	1
Number of accident cases attended	2	7	12	6	8	2	2	----	----	2	----	1	42

The work of the Bureau of Health extends to every municipality and barrio in the Philippine Islands and is only equaled in its magnitude by the responsibility connected with it. The health authorities, in common with other officials of the Insular Government, are confronted with many difficult and serious problems, upon the correct solution of which rests to a great extent, the future welfare of the Islands. Verily, no governmental undertaking ever depended more upon individual effort and upon the exercise of the principles and practice of the "simple life" than does "America's experiment in the Orient." Employees must do their duty, their whole duty, and more than their duty. The intemperate, the immoral, the indifferent, and the fault-finding are a detriment to the plans and purposes of the Government and should be made to give place to those who appreciate the high privilege of helping others.

While there are many discouraging features in the present and prospective view of the situation, there is no question or doubt of the ultimate success. The Government will succeed; the Board of Health will succeed; and all who have added their help and influence to the great work will be counted as factors in securing to a people and to a country the blessings of true Americanism.

Very respectfully,

R. E. L. NEWBERNE,
Acting Chief Health Inspector.

The COMMISSIONER OF PUBLIC HEALTH, *Manila, P. I.*

REPORT OF THE SANITARY ENGINEER FOR THE PHILIPPINE ISLANDS.

MANILA, P. I., *August 31, 1905.*

SIR: I have the honor to submit herewith a report of the work accomplished by this division from September 1, 1904, to August 31, 1905, inclusive. During the fiscal year the sanitary engineering division has issued 1,336 orders pertaining to the city of Manila, as shown by the following tabulated statement:

Statistical report of the repair work of the sanitary engineering division from September 1, 1904, to August 31, 1905.

NUMBER OF ORDERS ISSUED.

Month issued.	Sanitary engineering division.	Health district. No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	Total.
1904.									
September	70	4	10	1		5	4		94
October	37	13	11	22			4	2	89
November	40	5	2	21	5	1	4	6	84
December	95	10	1	26			2	7	141
1905.									
January	110	6	1	17	4	5	2	21	166
February	114	6	4	9	1	3	5	8	150
March	66	2	3	3			3	13	90
April	41	1		27			3	8	80
May	54	1		67			3	3	128
June	63	4		15			5	9	96
July	105	1		5			1	6	118
August	93	1		6		1	2	7	110
Total	888	54	32	219	10	15	38	90	1,336

NUMBER OF ORDERS OBEYED.

1904.									
September	67	4	9			4	4		88
October	36	11	9	21		2	2	1	82
November	40	4	2	19	4	2	4	5	80
December	95	8	1	24			2	7	137
1905.									
January	100	6	1	14	4	2	2	19	151
February	108	6	3	8	1	5	5	4	132
March	56	2	1	2			3	8	72
April	35			26			2	8	71
May	25			64			3	3	95
June	31			13			3	9	56
July	10			5			1	6	22
August	93								93
Total	691	41	26	196	9	15	31	70	1,079

Statistical report of the repair work of the sanitary engineering division from September 1, 1904, to August 31, 1905—Continued.

NUMBER OF UNCOMPLETED ORDERS.

Month issued.	Sanitary engineering division.	Health district.							Total.[1]
		No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	
1904.									
October							1		1
November					1				1
1905.									
January	10								10
February	11		1					1	13
March	10			1			1		12
April	6			1			1		8
May	28								28
June	32	2		1			2		37
July	94								94
August	93	1		6				5	105
Total	284	3	1	9	1		5	6	309

ORDERS CANCELED AND DISAPPROVED.

Month issued.	Sanitary engineering division.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	Total.
1904.									
September	3		1	1		1			6
October	1	2	2	1			1	1	8
November		1		2		1		1	5
December		2		2				1	5
1905.									
January				3	1			2	6
February				1		1		2	4
March				1				5	6
April		2					1		3
May	1			1					2
June				1					1
July	1	1							2
Total	6	8	3	13	1	3	2	12	48

Houses recommended condemned and destroyed.

Month.	Health district.							Total.
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	
1904.								
September			1		1			2
October	16			26				42
November			1		26		1	28
December		172	25					197
1905.								
January	1		27		3			31
February				18	4		16	38
March				1	3		1	5
April	12	8						20
May	1		1					2
June	65				1			66
July			47					47
Total	95	180	102	45	38		18	478

Plans for new buildings approved.

Month.	Health district.							Total.
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	
1904.								
September	6	5	7	8	3	-------	14	43
October	3	5	4	8	8	2	8	38
November	1	3	3	6	6	2	10	31
December	4	-------	3	1	5	1	10	24
1905.								
January	4	4	2	2	6	1	4	23
February	3	2	4	4	7	-------	12	32
March	4	6	4	10	10	1	18	53
April	3	2	6	5	4	1	6	27
May	5	3	4	6	8	-------	9	35
June	6	3	9	3	7	-------	12	40
July	1	2	2	3	2	1	4	15
August	1	4	1	5	4	1	7	23
Total	41	39	49	61	70	10	114	385

Prosecutions for failure to comply with sanitary orders.

Month.	Number prosecuted.	Amount of fines.
1904.		
October	1	₱150
December	3	150
1905.		
January	9	330
February	6	270
March	4	115
April	3	90
June	1	25
July	1	40
August	2	65
Total	30	1,235

Personnel of the division.

Month.	Engineers.	Inspectors.	Clerks.	Translators.	Draftsmen.	Total.
1904.						
September	1	2	1	1	---------	5
October	1	2	1	1	---------	5
November	1	2	1	1	---------	5
December	1	2	1	1	---------	5
1905.						
January	1	2	1	1	1	6
February	1	2	1	1	1	6
March	1	2	1	1	1	6
April	1	2	1	1	1	6
May	1	2	1	1	1	6
June	1	2	1	1	1	6
July	1	2	1	1	1	6
August	1	2	1	1	1	6

SANITARY ORDERS.

The reasons for the issuance of the above mentioned orders may be classified under the following heads, viz: (*a*) Drainage, (*b*) light and ventilation, (*c*) disposal of human excreta, (*d*) disposal of waste water, and (*e*) miscellaneous.

DRAINAGE.

During the past year this office has issued 304 orders requiring property owners to provide or repair gutters and 46 orders requiring that premises be filled sufficiently to insure proper drainage.

The ground on which the city of Manila is built is generally low and marshy. There is not a district in the city which at extreme high tide is not more or less flooded. The proper drainage of lowlands, under such circumstances, is difficult and costly.

There are large areas of unimproved land the owners of which are financially unable to fill their lots high enough to secure good drainage. In some cases the cost of filling would exceed the cost of the land. All of these undrained portions of the city, until raised above the level of the surrounding streets, will serve as breeding places for mosquitoes and be a menace generally to the public health.

In case of new buildings the owners are required, before approval of plans, to sign an agreement to fill the lot with clean earth, sand, cinders, or gravel to the level of the sidewalk in front. In the older portions of the city the grades of the streets, through a process of accumulation and repair extending over centuries, have been raised from 12 to 24 inches above the basements of the houses located thereon. The drainage problem for these buildings is decidedly complicated. As the height of the lower story is frequently only 8 feet or less, the raising of the ground surface would probably render the ceiling too low for habitable purposes. If the ground floor is raised, then the second story and roof must also be raised. This will in many cases cost more than removing the old structure and building a new one. Many of these properties are mortgaged and the owners are too poor to renovate their holdings. Sometimes the question is further complicated by the owner of the building not being the owner of the land.

In view of the present poor facilities for the filling in of low land and of the high cost of same (₱2 per cubic meter), it is believed that no permanent relief from the present unsatisfactory conditions can be hoped for until the city of Manila takes the matter in hand and fills all low grounds sufficiently to insure proper drainage, charging the cost of same against the property in question.

LIGHT AND VENTILATION.

To clearly understand the difficulties of securing proper light and ventilation, it is necessary to describe the different types of architecture in use in Manila. These types may be classified under four heads, viz, Spanish, native, Chinese, and American.

The Spanish type is usually a large, two-story building of mixed materials; the plan is square, or approximately so, and the kitchen, closets, bath, stable, and servants' quarters are usually provided for in an annex running back from the main building, the kitchen, bath, closet, and "azotea" being directly above the servants' quarters, servants' closet, and stable. The "azotea" is a tiled or paved porch or veranda, on the second story, usually not roofed, intervening between the main building and the kitchen. The second story is supported on "harigues," or uprights, whose bottoms are imbedded in masonry footings and whose tops extend to the ceiling. The walls of the lower story are of masonry and are built up so as to inclose the "harigues." The second story projects over the lower story from 2 to 8 feet. The lower story is provided with a paved entrance from 12 to 30 feet wide, extending from the front to the back door, which opens on the patio (yard). This, in addition to being the passageway for entrance to and exit from the building, is generally used as a carriage house. The front entrance is large enough to permit the entrance of horses and carriages and is closed by massive doors, one of which is provided with a smaller door for the use of persons only. Between this paved space and the main walls on either side are the "entresuelos," or sleeping rooms, formed by constructing board floors at an elevation of from 2 to 5 feet above the ground surface of the basement, and by extending wooden partitions from ground to ceiling. One of the "entresuelos" is generally shortened sufficiently to provide space for the stairway to the second story. The ground under the "entresuelo" is not paved and frequently serves as a breeding place for rats.

The second story is divided into the sala, or hall, the dining room, sleeping rooms, etc. The sala usually extends the whole length of the house and serves as a passageway to the other rooms, all of which usually open on it. The sides inclosing the second story are of wood and reach from the floor to the eaves. Wooden partitions fastened to the "harigues" extend from the floor of the second story to ceiling. The space between the exterior walls of the second story and the wooden partitions attached to the "harigues" serves as an outside gallery, by means of which the different rooms can be reached without the necessity of passing through the sala. The floors of the sala and rooms upstairs are usually of polished, native hard woods, the walls and ceilings being elaborately painted. The entrance way and entresuelos are plainly finished. The windows of the lower story are protected by heavy, projecting iron gratings. The light and ventilation of the second story is generally good.

Most of the lots occupied by dwelling houses in Manila are surrounded by high stone walls, and on this account the entrance of light and air into the entresuelos, stable, servants' quarters, and remainder of the first story is more or less impeded. In some cases where buildings were originally constructed on large lots, portions of which have since been occupied by other buildings, the entrance of light is so obstructed that the portion under the "azotea" is dark even at midday. This lack of light and air is at times extremely difficult to remedy. Frequently the cutting of new windows and air shafts will entail a remodeling of the entire building.

Forty-eight orders were issued having for their object the improvement of the light and ventilation by providing extra windows, doors, etc.

Native types.—The nipa house, varying from the hut of the laborer to the commodious dwellings found in some of the districts, may be considered as essentially a native type. The roof is usually of nipa, the sides are of nipa or of woven caña bojo fastened to a framework of bamboo secured to wooden "harigues." The floors are of boards or split bamboo. These houses are cool, well lighted and ventilated.

Chinese types.—Apparently the end to which all Chinese strive to attain is to pack as many tenants into a house as it can possibly hold, and, in order that these tenants may have a slight degree of privacy, an ingenious system of floors and partitions is constructed, which, while admitting the entrance and exit of the human occupants, almost totally excludes air and light. A case recently came under my observation where a storeroom 20 by 30 by 12 feet had, by means of extra floors and partitions, been divided into a lodging house containing 24 compartments.

Our usual remedy in such cases is to order all unauthorized floors and partitions removed, and 82 orders of this nature were issued.

American types.—The houses built by the Americans are generally of wood. They are of one or two stories, contain from two to eight rooms, and are provided with porches or verandas. Usually they are well lighted and ventilated.

DISPOSAL OF HUMAN EXCRETA.

During the year 221 orders were issued to repair tight vaults and 166 orders were issued to repair septic vaults; also, tight vaults were approved for 69 new houses and septic vaults approved for 265 new houses.

The method of disposing of excreta in the Spanish type of house was by the absorbing cesspool. Some of these were fine specimens of their class. Masonry vaults 20 feet square, and extending up to the second story, being not uncommon. Sometimes they were provided with outlets into closed sewers, into esteros, or into the Pasig River. The seats were generally of wood, although a few were provided with pan closets or antiquated flush closets. In some cases the closets on the second story were connected to the vaults by means of galvanized sheet iron or cement pipes, or by inclined masonry runs or slides. There was no arrangement provided for the cleaning of the vaults, and when one had to be cleaned an opening was made through the wall. An idea of how long these vaults were allowed to remain without cleaning may be gathered from the fact that as many as 8,500 gallons of human feces have been removed from a vault at one cleaning.

Practically all of the old vaults have been converted into tight vaults, properly vented, or into septic vaults by the addition of filter compartments, filled with broken stone or gravel.

Many property owners have installed flush water-closets over old tight vaults, with the inevitable result that, as soon as the vault becomes full of water, seepage through the walls takes place and a nuisance is the result. Defects of this nature are usually remedied by building a filter vault with overflow to street sewer or estero and connecting same to original tight vault.

It is deemed proper to state that no accurate record exists of either the public or private sewers formerly constructed in the city, with the result that to-day, in the construction and repair of sewers, streets, water pipes, etc., old sewers are constantly being broken into, causing more or less annoyance. Frequently our investigation to discover the cause of foul odors arising from alleys and from streets immediately in front of buildings proves that an old sewer, whose existence nobody was aware of, is the cause of the trouble.

Septic vaults.—As the present ordinance prohibits the entrance into the river or esteros of crude excreta, it became necessary to devise some method by means of which water-closets could be installed and operated, and which would at the same time dispose of the surplus water. This has been done by means of the septic vault, consisting of a tight receiving compartment and a filter compartment, filled with loose broken stone or gravel, the discharge from filter vault to go into the river, into an estero, or into a covered sewer, if such connection be possible. In some portions of the city, where the soil is suitable for absorption, septic absorbing vaults without any discharge have given satisfaction.

The use of these septic vaults has, on the whole, proved satisfactory, the effluent in some cases being clear and odorless. In several cases where no septic action has taken place the effluent has been dark colored and offensive. This difficulty arises probably from the fact that in order to secure proper septic action the feces must bear a certain proportion to the liquids. If either the liquids or the feces are in excess, septic action is delayed or prevented, and the effluent is discolored and foul smelling. Where a vault would give satisfactory results for the feces from five persons it is possible that the result for double that number would not be so good.

Pail sytsem.—It is the policy of this office to approve of the use of the pail-conservancy system of the city of Manila for (*a*) temporary use; (*b*) for small tenements; (*c*) for groups of houses, none of which are provided with adequate closet systems; (*d*) for those buildings with old, unauthorized vaults, to change which to one of the systems approved by the Board of Health would entail too great an expense.

DISPOSAL OF WASTE WATERS.

During the year this office has ordered 79 absorbing basins constructed or repaired, and has approved the plans for 123 new buildings provided with absorbing basins.

Waste water from kitchens, baths, and stables is usually disposed of in absorbing basins. Where the ground does not absorb well a discharge is provided, if practicable, from absorbing basin to the river, to an estero, or to a street sewer or a street gutter provided the street is paved. In some parts of Manila, where the ground water is too near the surface to admit of absorbing basins giving satisfactory results, the waste water is allowed to enter street gutters direct. This is also permitted in case of small tenement houses where the amount of water used is relatively small and where the expense of constructing an absorbing basin would be out of proportion to the cost of the building.

In many houses the waste water from kitchens and baths is allowed to fall through the floor on the ground underneath, there to evaporate, to absorb, or to form puddles. To remedy this defect we have issued 129 orders requiring the kitchens and baths to be tiled, or the ground underneath to be paved or tiled. Also it is the belief of the Board of Health that concreting or paving the ground surface of a building is the best protection against rats. This has been insisted upon by the sanitary engineer before approving plans for new buildings.

In many of the old buildings the water from the azotea is allowed to escape over the edges and run down the sides of the walls underneath, discoloring them and leaving grease and slime deposited thereon. To remedy this we have issued 487 orders requiring bell traps and down spouts to be installed.

MISCELLANEOUS.

The general use of open fires, unprovided with adequate smoke flues or chimneys has caused the ceilings and walls of most of the kitchens to become blackened by soot and smoke. To remedy this we have ordered 160 smoke hoods to be repaired or constructed in old houses, and have required all new houses having open fireplaces to be provided with smoke hoods of the design approved by this office. The increasing use of cooking stoves in the better class of houses is a decided improvement over former conditions.

It is customary where smoke hoods are installed to require the ceilings and walls of kitchens to be thoroughly cleaned and whitewashed; also, wherever living quarters are dirty and the walls discolored and greasy, we require that same be cleaned and whitewashed.

During the past year we have issued 224 orders requiring premises to be whitewashed either wholly or in part.

In addition to the nature of the repairs above described, we have issued many orders of a miscellaneous character, such as requiring closets, baths, sinks, and pipes to be repaired, premises to be cleaned, stables to be moved, chickens, pigs, and other animals to be taken out of living quarters, etc.

HOUSE RECOMMENDED CONDEMNED AND DESTROYED.

Four hundred and seventy-eight houses were recommended to the Municipal Board for condemnation and removal.

This office has proceeded very slowly in recommending the condemnation and removal of buildings, for the reason that the houses to be condemned are generally occupied by the poorer classes, and to remove any large number at any one time would cause distress and suffering, the people being without adequate means for securing shelter for themselves and families. It can be safely asserted that if all the buildings in Manila unfit for human habitation, and not worth the cost of necessary repairs, were removed, that a large per cent of the city's population could not be sheltered until new houses were built. It is the policy of this office to recommend buildings for condemnation only where they have reached such a stage of decay that they are not worth the expense of repairing them, and then only in limited numbers.

PLANS FOR NEW BUILDINGS APPROVED.

During the year this office has examined and approved the plans for 384 new buildings.

It is our desire that every new building constructed shall conform to the standard of sanitary requirements as established by the best sanitarians, engineers, and architects of Europe and America, with certain necessary changes to suit the different climatic conditions. As works written in Spanish treating of architecture and sanitation are difficult to obtain, and as the local architects adhere rigidly to the prevailing type of buildings, our efforts have not been as satisfactory as we could have wished.

PROSECUTIONS FOR FAILURE TO COMPLY WITH SANITARY ORDERS.

For noncompliance with sanitary orders, 30 owners or agents of property were prosecuted and fined. As the entire system of disposing of human excreta, waste water, etc., at present in use in the city of Manila, will be changed as soon as the new sewer system is completed, it is the policy of this division to overlook many irregularities on the part of the property owners or agents, provided their premises are kept in a reasonably sanitary condition, and only to prosecute for noncompliance with necessary orders when it has become evident that gentler methods will not avail.

NECESSITY FOR NEW LAWS.

The city of Manila at present has no sanitary code, and as a result the people are ignorant of sanitation and a large part of our own time is occupied in making explanations which should be given by the sanitary code.

We have no ordinance clearly defining the requirements of good plumbing, and as a result there is a lack of uniformity in plumbing work and a disposition on the part of certain plumbers to evade or disregard the orders emanating from this office, knowing as they do that at present the prosecution of plumbers for installing inferior and defective work is extremely difficult.

Our building ordinances are defective and do not meet modern requirements. On this account there has been in past times more or less of a tendency not to enforce them strictly, leaving the architect or contractor to construe the law to suit himself, and the precedent thus established still retards our efforts to secure better buildings.

It is believed that the enacting of the three ordinances above enumerated, all of which are at present under consideration, would be of inestimable value to the public and would relieve this office from the necessity of making long and wearisome examinations, which at present occupy entirely too much of our time.

PRESENT FORCE AND ORGANIZATION.

At present the city of Manila is divided into 7 health districts, as follows:

District.	Number of houses.	Population.
San Nicolas, Binondo	4,590	45,702
Tondo	6,392	39,043
Sampaloc	3,361	27,606
Ermita, Malate, Paco	9,928	34,037
Intramuros	696	11,460
Santa Cruz	4,933	35,030
Quiapo	1,887	11,139
In boats		15,901
Total	31,787	219,928

To inspect these, we have 1 sanitary engineer, 6 district medical inspectors, 8 sanitary inspectors (2 of these are in the office of the sanitary engineer), 9 assistant sanitary inspectors, and 16 sanitary police.

The police, who are detailed for the purpose by the city, are required to inspect the houses in their district at least once a month, and to see that the premises are kept clean. Whenever a building is reported in need of repairs by the police, the sanitary inspector of that district makes an inspection, and if conditions justify it he fills out Board of Health Form No. 56, stating the condition of the premises, and recommends the necessary repairs. This form, after approval by the medical officer in charge of the district, is forwarded to the office of the sanitary engineer, who makes or causes another inspection to be made before an order is served on the owner, directing that the necessary repairs be made within a specified time.

It is believed that more efficient service can be secured and a higher state of organization be attained by having the police report direct to the sanitary engineer, from whose office a final inspection would be made before ordering repairs. As all orders for repairs, cleaning, etc., are served by the sanitary police, it would be easy, by requiring them to note all corrections made in their reports, to teach them to exercise better judgment in rendering the same.

The sanitary police should be men permanently detailed for this work, and after perfecting themselves in their duties they should not be removed without just cause; however, it is believed that it would be more satisfactory to increase the number of assistant sanitary inspectors instead of using the police for this purpose.

The sanitary inspectors should all be under the direct orders of the sanitary engineer. In this manner they could be more readily trained and could be used to good advantage in training the assistant sanitary inspectors and the sanitary police. As the sanitary police and assistant sanitary inspectors became more efficient, the number of sanitary inspectors could be gradually diminished. At present the sanitary inspectors and assistant sanitary inspectors have their time largely occupied in clerical work at their respective stations.

None of the present sanitary inspectors speak Spanish or Tagalog sufficiently to make themselves clearly understood, and as most of their business is transacted with people who do not understand English, some unfortunate misunderstandings have occurred. It is recommended that an increase in salary be granted to those who can pass a satisfactory examination in Spanish or Tagalog, and that, in like manner, an increase of salary be granted the assistant sanitary inspectors and the sanitary police who pass a satisfactory examination in English.

WORK DONE OUTSIDE THE CITY OF MANILA.

CULION LEPER COLONY.

The work done by this division at Culion consists of: (1) Surveying and platting the ground, (2) designing and locating a system of water supply, (3) designing and locating a sewer system.

Survey of leper colony at Culion and of director's dwelling at Carter's.—This work was performed by the sanitary engineer, assisted by Sanitary Inspector Sidell, during the month of March, 1905. The results of the survey were platted in the office of the sanitary engineer.

Water supply.—The water with which the colony is to be supplied comes from a spring outside the space reserved for the lepers. The flow of the spring has been determined by Dr. De Mey, the director, to be about 20,000 gallons per day. The water is clear and exceptionally pure.

It is purposed to raise the water up to a reservoir, and then convey it by gravity through a system of pipes to different points in the colony.

The system as located consists of: (1) A cement tank which receives the water direct from the spring; (2) a pumping engine; (3) 618 feet of 2½-inch galvanized-iron supply pipe leading to the reservoir; (4) a reservoir, consisting of a vertical cylindrical opening in the side of a hill, which is lined on sides and bottom with concrete and covered with a layer of concrete resting on a platform of "molave," the capacity of the reservoir being 80,000 gallons; (5) a 4-inch galvanized-iron water main for conducting water to the colony and a series of 2½-inch, 2-inch, and 1-inch galvanized-iron branches for distributing to hydrants, baths, closets, hospital, kitchens, and fire plugs.

The director's dwelling at Carter's is also provided with water, which is pumped up to a reservoir and from there conducted by gravity to the dwelling.

Sewer system.—The sewer system as designed and constructed consists of a series of 4-inch, 6-inch, and 8-inch branches of cement pipe connected to the main 8-inch cement sewer, which discharges into a septic vault, the overflow of which goes into the sea. The main sewer is provided with 3 manholes. The sewers are ventilated through the manholes, whose covers are perforated. On account of the steep lay of the land there was no difficulty in securing good grades for all sewers. It is believed that the system as designed and constructed will effectually dispose of all sewage from closets, baths, hydrants, kitchens, and buildings.

As the nature of the ground would not permit of two of the closets being connected to the main sewer system, it was decided best to construct two small septic vaults for this purpose, each receiving the discharge from one closet.

The director's dwelling at Carter's and the employees' dwellings at the spring are also provided with small, septic vaults.

Very respectfully,
J. D. FAUNTLEROY,
Sanitary Engineer for the Philippine Islands.

The COMMISSIONER OF PUBLIC HEALTH, *Manila, P. I.*

REPORT OF THE SAN LAZARO HOSPITALS.

By H. Brookman Wilkinson, M. D., *Physician in Charge.*

Manila, P. I., *September 1, 1905.*

Sir: In compliance with special instructions from your office I have the honor to submit my third annual report, which covers the work performed by the several departments of the San Lazaro Hospitals during the year ending August 31, 1905.

Before taking up each department separately it may be stated that the general personnel and scope of work carried on at this hospital remain practically the same as set forth in my last report, with the exception of the transfer of the women's department on December 9, 1904, to a suitable building in Sampaloc district, city of Manila, and the conversion of the building thus vacated into an insane department.

In view of the comparatively short time that the women's department remained here since my last report, and of the fact that all of the records pertaining to this department were transferred to the new Sampaloc Hospital, this report will not include the women's department, except as to such data, in a general way, as pertains to the total number of patients admitted, subsisted, and discharged during the period while it was here.

IMPROVEMENTS AND CHANGES.

The following changes, additions, and improvements to the buildings, equipment, and grounds have been made during the past year:

1. An excellent Leitz microscope has been furnished us, and a small laboratory provided for emergency work. This has been a wonderful aid to the work of the several departments of the hospital, as well as a benefit to the physicians on duty here.
2. The conversion of the building formerly occupied by the women's department into wards for the insane.
3. The erection of a new stable to accommodate the ponies used in the hospital carretela and carromata, and the Australian horse used in the dump cart.
4. Remodeling the morgue tables and the construction of a cold storage for dead bodies.
5. Construction of a suitable laundry for the leper department.
6. Installation of a Rider-Ericson hot-air engine for pumping water from the city main into our hospital tanks. This is necessary during the dry season when the water pressure is low.
7. The addition of a new portable disinfecting plant to our equipment for use in case of an epidemic of any kind.
8. The construction of a poultry yard where we are attempting to raise chickens to supply fresh eggs for the hospital wards.
9. General improvements to grounds, filling in and grading low places, and planting grass and trees. Practically all of the extensive grounds around the hospitals have been graded and sodded and are regularly cut by lawn mowers.

REPORT OF SICK.

The number of sick treated in the several departments of this hospital during the past year has been as follows:

Number of patients brought forward September 1, 1904	331
Number of patients admitted during year	513
Number of patients discharged during year	376
Number of patients died during year	106
Number of patients transferred during year	55
Number of patients escaped (lepers)	5
Number of patients remaining August 31, 1905	302

NUMBER OF PATIENTS.

The average number treated per day during this period was 306; being, for September, 307; October, 300; November, 281; December, 285; January, 297; February, 308; March, 317; April, 321; May, 322; June, 317; July, 307; August, 301.

COST OF SUBSISTENCE.

The average cost of subsistence per patient per day was, for September, ₱0.36; October, ₱0.35; November, ₱0.40; December, ₱0.39; January, ₱0.34; February, ₱0.36; March, ₱0.38; April, ₱0.36; May, ₱0.36; June, ₱0.36; July, ₱0.35; August, ₱0.37; all in Philippine currency.

DEPARTMENTS.

The following is a summary of the work performed by each of the departments during the period from September 1, 1904, to August 31, 1905:

Women's department.—As above stated this department was transferred to its new location in Sampaloc district on December, 9, 1904, and a report covering the details of its operation for the entire year will be submitted separately by the physician in charge.

Insane department.—The opening of this department was a step toward filling a very urgent and long-felt need, which had been recognized by many of us since our early occupation of these Islands. The Hospicio de San José had been overcrowded for two years, and the only available place where this unfortunate class of people could be detained to prevent their inflicting injury upon themselves or others was Bilibid Prison. There they were received in the prison hospital, being committed by the courts or executive order for detention until cured or otherwise disposed of.

On November 13, 1904, 30 of these alleged insane people were transferred from Bilibid Prison to this hospital, of which number 24 were males and 6 were females; of the males 1 was an American, 2 were Spaniards, while the remaining 21 were natives. All of the females were natives. Of the total, 25 were detention cases, having been committed on account of insanity, while 5 were insane criminals with sentences varying from six months for theft to death sentence for parricide. The prisoner sentenced to death was transferred here in shackles, which have since been removed, the Supreme Court having reduced his sentence to life imprisonment on account of insanity.

As now arranged the insane department can accommodate 15 women and 75 men, or a total of 90 persons. The ward for women has been filled almost constantly, while the male wards are almost full, and provisions should be made in the near future for increasing the capacity of this department.

The personnel of this department consists of 3 American nurses, receiving $60, United States currency, per month; 1 native, receiving $15, United States currency, per month; and 5 natives, receiving $7.50, United States currency, per month.

Below is a table showing the cases treated in this department since it was opened in November:

Nationality.	Total admitted.		Discharged, cured.		Transferred.		Died.		Remaining.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
American	5	1	1		2	1			2	
European	4		2						2	
Chinese	3		2						1	
Japanese		1		1						
East Indian	1				1					
Filipino	76	25	17	9		1	12	2	47	13
Egyptian	1								1	
Others	1								1	
Total	91	27	22	10	3	2	12	2	54	13

Of the 12 males that died, the diagnoses were as follows: Pneumonia, 1; chronic dysentery, 1; chronic interstitial nephritis, 1; general inanition, 1; senility, 2; chronic hemorrhagic leptomeningitis, 1; abscess of iliac region, 1; beri-beri, 4. The 2 females died of chronic nephritis.

Diagnoses of cases treated.

Melancholia	46
Delusional insanity	12
Dementia	9
Epilepsy	6
Imbecility	4
Catalepsy	1
Paranoia (degenerate)	2
Mania	3
Temporary insanity (alcoholism)	2
Undetermined	33
Total	118

Leper department.—The general routine of this department continues with but little change since my last report. Dr. Mercado, as before, continues to do the medical work in the wards, and the patients seem unusually cheerful and contented for people under life sentence.

Since January, 1904, the physician in charge, with the assistance of Dr. Mercado and one of our trained nurses, has been engaged in doing some special work in this department. We have attempted to get histories of all cases, classify them as to the variety, examine them microscopically for the lepra organism, and in some selected cases we have tried various curative measures. Some of this work has been written up by the physician in charge and may be published when completed, but I think it is safe to say that we have found many of these cases to have been benefited by the application of the X-ray, and 3 of them have been actually cured by this treatment. In all of this work our diagnoses and results from treatment were followed and confirmed by microscopical examinations. Also we have attempted to keep a photographic record of results obtained.

The following shows the number of cases treated in this department during the past year:

Remaining in hospital September 1, 1904	225
Admitted during the year	69
Died during the year	57
Discharged, diagnosis not leprosy	4
Discharged to go to China	1
Escaped	5
Remaining August 31, 1905	227

As will be seen, the number of escapes is only 5, which to me indicates a marked increase as to contentment among these poor unfortunates, especially when it is compared with previous reports, which gave 16 for last year and 46 for the year before. The causes of death have been the ordinary intercurrent diseases, especially chronic enteritis, general debility, heart disease, tuberculosis, etc.

Contagious disease department.—During most of the past year the work in these departments has been comparatively light, there being occasional cases of bubonic plague, smallpox, and tetanus, but no tendency to an increase of these diseases to any marked extent. On August 21, 1905, we received our first case of cholera for the year, since which date cholera has gradually increased, but as yet it is too early to obtain any information of value for this report.

Bubonic plague department.—The following table shows cases treated during the past year:

Month.	Remaining last report.	Admitted.	Discharged, diagnosis not plague.	Transferred.	Died.	Cured.	Remaining.
September		1		1			
January		1					1
February	1	3	1	2	1		
March		3			2		1
April	1	1					2
May	2	3	1		1	2	1
June	1	3	1		2		1
July	1	3	1		3		
August		4		2	2		
Total		22	4	5	11	2	

Smallpox department.—The following table shows cases treated during the past year:

Month.	Remaining last report.	Admitted.	Discharged, diagnosis not smallpox	Transferred.	Died.	Cured.	Remaining.
September		5			1	1	3
October	3			1	2		
November		1		1			
December		2					2
January	2	4				4	2
February	2	6		1		4	3
March	3	4				4	8
April	3	4				4	3
May	3	2	1			2	2
June	2	3			1	1	3
July	3	2		1		3	1
August	1						1
Total		33	1	4	4	23	

Cholera department.—August: Remaining last report, none; admitted, 28; diagnosis not cholera, 3; died, 18; cured, none; remaining, 7.

As will be seen no cases of cholera were treated during the year until the month of August. During most of the year the wards of this department were used for miscellaneous cases, during which period we treated 5 cases of tetanus, 1 case of impetigo, 1 case of acute entero-colitis, admitted as cholera, 1 obstetrical case, and the baby resulting therefrom. Two out of the 5 cases of tetanus recovered. These 2 cases were treated by Dr. Biggar during my absence in the United States.

MORGUE AND CREMATORY REPORT.

The following table shows the number of bodies received and the causes of death, by months:

Month.	Bubonic plague.	Small-pox.	Leprosy.	Violence.	Cholera.	Other causes.	Total.
September	1	2	4	1		12	20
October		2	4			9	15
November			1			9	10
December	2		6			22	30
January	6	1	7	3		14	31
February	4		3	1		30	38
March	8		2			24	34
April	2		1	2		17	22
May	2		3			25	30
June	6	1	3	1		29	40
July	3		9	2		14	28
August	3		10	3	26	35	77
Total	37	6	53	13	26	240	375

Number of autopsies held during the year	181
Number of bodies cremated during the year	54
Number buried as paupers during the year	204

In conclusion I wish to state that between the 6th of March, 1905, and the 30th of June, 1905, during the absence of the physician in charge in the United States, Dr. J. H. Biggar acted in that capacity and carried on the work with unusual ability. Dr. H. C. Bierbower is now doing special work in the cholera department, and considering the severity of most of the cases of cholera his results so far have been excellent.

Very respectfully,

H. B. Wilkinson,
Physician in Charge.

The Commissioner of Public Health, *Manila, P. I.*

SOME OBSERVATIONS ON LEPROSY IN THE PHILIPPINE ISLANDS WITH AN ACCOUNT OF TREATMENT WITH X-RAY.

By H. BROOKMAN WILKINSON, *Physician in Charge San Lazaro Hospitals.*

As is generally known, leprosy is diffusely scattered throughout the entire Archipelago, not being much more abundant in any one locality than in another. The actual number of cases is variously estimated from 5,000 to 10,000. Whether the disease is increasing or decreasing at the present time can hardly as yet be even surmised, nevertheless we do know that in the neighborhood of Manila, where for several years an attempt has been made to segregate it in this hospital, we are constantly receiving new or previously unreported cases. The new admissions during the past three years, since I have been in charge of the hospital, have been variable as to the apparent stage of the disease, but it is extremely rare to find a case where the disease is limited to so small a localized region of the body as to indicate recent local infection. On the other hand, a large proportion of new admissions give an undoubted history of the disease dating back from one to ten years, from which fact I am sure that practically all of them could have been diagnosed earlier had they been examined by an experienced physician. It is also quite probable that we are surrounded by and more or less in constant contact with numerous cases of leprosy in its early stages of development.

It is practically impossible to draw any reliable conclusions as to the exact duration of the disease in any given case, on account of the general ignorance of the masses with reference to its early recognition and differentiation from the numerous skin diseases so common here, as well as to their lack of fear of the disease and their consequent inclination to conceal its presence in order to avoid segregation or confinement. Also the point of inoculation or the source of infection can rarely, if ever, be determined on account of our inability to locate the cases at an early stage of the disease, or to ascertain the approximate time of infection. These difficulties are increased by the customs of the natives, which dispose them to frequent change of residence and association, as well as by the fact that anywhere they happen to go they are liable to find one or more sources of infection in the immediate neighborhood.

While from the above remarks it can be seen that the exact method by which this disease spreads is very doubtful, still there have been a few facts noted among our cases which throw some light upon the subject.

First, we find that for several years past there has been only one case where a husband and wife have been known to have the disease, and in this case the disease appeared at the same time in both, indicating a common origin rather than a transfer from one to the other.

Of numerous children born in the Philippines of leprous parents (7 in this hospital, 3 having both parents leprous, but not married) none have been known to suffer with leprosy.

I have been able to locate 5 cases where a parent and child have both had the disease, but the development occurred toward the end of the child's adolescence, appearing at about the same time in both parent and child, the child developing the disease first in three cases, the parent first in two cases, thus indicating common origin and not transmission from parent to child.

We have had 5 families represented by 2 children, 3 families represented by 3 children, and 1 family represented by 5 children. In this latter family there were 10 children, the other 5, with both parents, remaining free from the disease.

For the purpose of the following comparative observations, I have taken the histories of 239 cases, 238 of which were in the hospital at the time when these statistics were prepared, December, 1904, while the other case was admitted soon afterwards and is included on account of its subsequent improvement and cure under X-ray treatment. As can be readily understood, many difficulties were encountered in obtaining accurate histories of these cases, the principal of which being the variety of languages spoken—Spanish, Tagalog, Ilocano, Visayan, and Bicol being represented—and the sluggish mental condition of many of the patients, due to their station in life and their long hopeless confinement. In this work, as well as in the microscopical examinations of slides and the use of the X-ray apparatus, I have been efficiently assisted by Dr. Rizal Mercado, the house physician, and by Miss R. Mickle, one of our trained nurses, both of whom kindly volunteered their services.

With each case we carefully inquired into the history of the development of the disease, especially with reference to the time when the first symptoms appeared, the time spent in this hospital, and the existence of the disease in relatives.

Then an examination was made of the present condition of the body, noting the parts involved, the class or variety of the disease, whether hypertrophic, atrophic, or mixed, the amount of disfigurement estimated in per cent of disability, and the percentage of vitality. Ordinarily vitality and disability would vary inversely one with the other, but disability is here used to mean the disability caused by the maiming action of this particular disease, while vitality is used in its ordinary general sense.

After this procedure, microscopical slides were made of scrapings from the specific lesions, and in all cases found negative by the first slide, three additional slides were more carefully made and examined. If these slides were not positive, for the purpose of classification we called the case bacteriologically negative, although in most cases we carried the work further for the purposes of reconfirming the negative examination.

In the classification of the varieties of this disease, I have used the terms hypertrophic and atrophic in place of the more ordinarily used terms tubercular or nodular and neurotic or anæsthetic, as I find that these latter terms are liable to much confusion as well as being, in fact, misleading. Under the head of hypertrophic cases we include cases showing tubercles and nodules or mass and plate-like increase of tissue, while under atrophic we include those cases showing scars and glossing of skin, anæsthetic patches, wasting away of the fingers and toes, etc.—in other words, when hypertrophy exists we call the variety "hypertrophic" and when atrophy exists we call it "atrophic."

The hypertrophic forms develop most rapidly and are usually diagnosed earlier; they ulcerate freely and promptly, and the lepra bacilli are easily found in great abundance in all cases by simply taking a scraping from any of the hypertrophied parts. The atrophic forms develop more slowly, rarely if ever ulcerate; the bacilli are found with difficulty in scrapings and the patients display the greatest variety of deformities, with frequent loss of toes and fingers.

The mixed variety is simply a combination of the other two, usually one form being apparently of much more recent origin than the other two.

Of the 239 cases here reported, 97 are hypertrophic, 47 atrophic, 92 mixed, and 3 undetermined, 1 of the latter being probably atrophic and 2 not leprosy at all, but lupus vulgaris. Of the entire number, the disease has existed to an extent to be recognized for an average period of eight and eleven-hundredths years, and the average period of their residence in this hospital has been two and fifty-five hundredths years. Seventy-seven of the cases have had the disease for ten or more years, 12 for twenty or more years, 1 for thirty-one years, and 1 for forty-one years. Seven have been in this hospital for ten or more years, 2 for seventeen years, and 1 for eighteen years. Of the 47 atrophic cases, I find that the average time which they have been known to have had the disease has been twelve and twenty-eight hundredths years, while their average time in this hospital has been four years.

The average estimated disability or deformity for the entire 239 cases is fifty-three per cent, 12 show no disability, 96 show less than fifty per cent disability, 37 show fifty per cent disability, and 94 show more than fifty per cent disability.

The average vitality of the entire number is estimated at sixty-eight per cent. There are 5 with one hundred per cent vitality or practically normal, 158 with more than fifty per cent, 56 with fifty per cent, and 20 with less than fifty per cent vitality.

On microscopical examination of scrapings from the leprotic lesions, I found 193 positive for lepra bacilli by the first slide taken and 46 negative. Subsequently I made three slides from each of these 46 negative cases and found 20 of them positive, there remaining 26 permanently negative for lepra bacilli in scrapings from the skin. I have made numerous subsequent examinations of many of these negative cases and continue to find them negative, but in a few cases which have died since I have been able to demonstrate the bacilli in nerves which supply the atrophied regions of the body. It is interesting to note that all of these 26 permanently negative cases belong to the atrophic variety, except 3. One of these 3 is classed as doubtful, but I am inclined to class it as atrophic, while the other 2 are probably lupus.

X-RAY TREATMENT.

The treatment of leprosy with X-rays was begun by me in this hospital in January, 1904. The apparatus used is a 10-inch spark machine, made by W. Watson & Sons, 313 High Holborn, London, with a variety of tubes supplied by the same firm. The bifocal tube exhausted for a 10-inch spark has given the most satisfaction.

In treating the cases, I have always selected the part of the body which presented the greatest amount of leprotic deposit, and usually exposed it to the rays for ten minutes at a distance of 7 to 10 inches. The distance and time of exposure being varied somewhat from time to time, an effort being made to approach as near to the point of burning the skin as possible, without actually doing so. In only two cases was the skin actually burned, and it is interesting to note that they are the first two cases herein reported as cured. During treatment the patient never suffers, and can only notice a slight tickling sensation over the area treated, as if a slight wind was blowing upon the skin. After two or three successive treatments, a blushing of the skin may or may not be noted, and usually a sensation of itching is experienced by the patient. Should superficial burns occur, treatment should be for the time suspended until tissue repair begins. These burns have shown little tendency to progress and have healed readily, leaving little or no scar.

Below will be found a tabulated list of 13 cases treated during the past year. All of these cases have been natives of the Philippines, and are numbered from 1 to 13 for easy reference.

Number of case.	Date of treatment.	Sex.	Age.	Duration of disease.	Number of treatments.	Result.
			Years.	*Years.*		
1	Jan. 31, 1904 Jan. 23, 1905	Female	15	9	44	Not improved.
2	Apr. 23, 1904 Nov. 21, 1904	Male	8	1	13	Do.
3	Apr. 23, 1904 Nov. 21, 1904	do	8	5	11	Improved.
4	Apr. 23, 1904 Nov. 21, 1904	Female	10	3	12	Not improved.
5	Apr. 11, 1904 Sept. 8, 1904	Male	37	1	14	Cured.
6	Sept. 10, 1904 Feb. 1, 1905	Female	12	5	40	Improved.
7	Sept. 10, 1904 Jan. 23, 1905	do	14	4	37	Do.
8	Sept. 10, 1904 Jan. 23, 1905	Male	13	4	38	Do.
9	Oct. 25, 1904 Jan. 23, 1905	Female	12	7	14	Do.
10	Oct. 27, 1904 Jan. 20, 1905	Male	16	5	12	Do.
11	Oct. 27, 1905 Jan. 17, 1905	do	36	18	15	Do.
12	Jan. 9, 1905 June 7, 1905	do	19	2	52	Cured.
13	May 8, 1905 June 7, 1905	do	25	2	14	Do.

As will be seen by an examination of the table of the 13 cases treated, 3 have been cured, 7 improved, and 3 not improved.

I am unable to entirely explain why cases Nos. 1, 2, and 4 were not improved by the treatment, still in none of these cases did we have a large mass of leprotic tissue to which we could apply the rays. Case No. 1 had a few patches scattered over the face and body, and while the individual patches to which the rays were applied improved slightly, the disease apparently continued to progress in other parts of the body. Cases Nos. 2 and 4 had practically no localized patches, and the treatment was stopped after a short unsuccessful trial.

Cases Nos. 3, 6, 7, 9, and 10 showed definite improvement with considerable decrease in leprotic deposit, the advance of the disease being apparently for the time checked. Case No. 10 showed marked decrease of facial hypertrophy but at the same time a loss of general health, possibly due to an overdosage of necrotic elements.

Cases Nos. 8 and 11 were both unusually far advanced and badly disfigured, and both improved to a marked degree, not only in parts of the body exposed to the X-rays but in distantly removed parts of the body where the rays did not reach. Case No. 11 had enlarged and ulcerated ears, lumps on face, and enlarged, thickened, and ulcerating hands, with loss of the ends of several fingers. After the application of the rays to his hands, where the tissue showed the greatest hypertrophy, not only did his hands decrease in size and the skin clean off but the ears became smaller, the ulceration healed, and the skin of face became more normal. Case No. 6 showed very unusual nodular developments over face (see photograph marked No. 8, November 7, 1904). With treatment these nodules gradually disappeared to a very marked extent, as seen in photograph No. 8, September 23, 1905. This gradual improvement in case No. 8 seems to be progressing, if anything, more rapidly at this time, September, 1905, than at any previous time, although treatment has been suspended since January.

Case No. 5.—Domingo Panol, male, native of medium size, 37 years of age, admitted July 29, 1904; clinical diagnosis, well-developed hypertrophic leprosy. On the day of admission duplicate slides were made from skin scrapings and were sent to the Government Laboratories, both of which were reported positive for lepra bacilli.

History notes: On admission the patient appears fairly well nourished. Talks Spanish unusually well and is much above the average in intelligence. He has been employed in the United States Quartermaster's Department as a laborer. The right side of his face shows marked thickening of the skin and superficial tissues, the entire surface being elevated about one-half to three-fourths inch, and of a deep purplish-red color. The thickening of tissue is so great that his right eye is practically closed and the right ear two and one-half to three times its normal size. On the point of the chin there is a nodular enlargement about the size of a horse chestnut. On the forehead, the left cheek, the chin, and the neck are numerous small nodules about the size of an English split pea.

August 11: X-ray treatment was begun to-day, the application being the rays from a bifocal tube at a distance of 10 inches for ten minutes.

August 23: Treatment as on August 11 was repeated on August 12, 13, 15, 16, 17, 18, and 23. On examination to-day I find that the tumefaction of the face is markedly reduced and the right eye can be more widely opened. Superficial ulceration or burns have appeared on the helix of right ear and on the eminence of right cheek, from which runs a sero-purulent fluid. Treatment is for the time suspended.

August 31: The superficial burns have somewhat increased in size since last treatment, and a tendency to break down is noted in the nodule on chin and on side of neck.

September 4: The burns have dried over and are covered with scabs or crusts. X-ray treatment is resumed.

September 9: There is still a superficial burn about the size of a 25-cent piece on the eminence of right cheek. The ear, chin, and neck are better. X-ray treatment was given on Sepetmber 4, 7, and 8, but has now been discontinued.

September 22: The burns on cheek and chin alone remain, and they are nearly well. Face and ear are much reduced in size, and all of the nodules heretofore noted and also two or three on arms appear to be gradually disappearing. The large nodule on chin is much reduced in size.

October 15: Patient has gradually improved. Most of the hypertrophy of face and ear has disappeared, leaving considerable scar tissue. The eye is now wide open and the outer canthus begins to be drawn outward by scar tissue. Right ear still somewhat enlarged, especially the lobule. Pus taken from the partly broken-down nodule on chin shows lepra bacilli.

November 7: Photograph marked No. 5, November 7, taken to-day, shows present condition clearly. Right ear, especially its lobule, still somewhat enlarged. Face shows some inflammatory and much scar tissue. Chin shows some of the small nodules, but the large one has practically disappeared.

December 15: Skin scraped from cheek shows a few scattered lepra bacilli. Also skin and serum taken from healed nodule on chin show a few scattered, imperfectly stained, apparently beaded, and broken-up lepra bacilli. Pus and serum from crust on right ear show no lepra bacilli. Patient is rapidly improving so far as his leprotic manifestations are concerned, but his general physical condition is not good and he seems to be losing in general health.

January 12, 1905: Three days ago a soft, indolent, fluctuating abscess appeared in the right groin above Poupart's ligament, and on being opened to-day discharged about 8 ounces of yellow, thick pus. Microscopical examination of this pus shows numerous streptococci, but no lepra bacilli.

January 19: Photograph marked No. 5, January 19, taken to-day, shows plainly the improvement in face and ear.

February 2: Microscopical examination of skin and serum taken from the right cheek shows a very few scattered, beaded, and apparently broken-up lepra bacilli, but no clumps. Specimens taken from several other parts of the body are negative.

July 1: Appearance of face and ear are normal so far as leprosy is concerned, but there is considerable white scar tissue scattered over this area. No part of the body shows at present any signs of existing leprosy. Microscopical examination of skin scrapings from different parts of body, especially right side of face, nose, chin, etc., are all negative. The general physical condition of patient has gone down rapidly during the past six months and he is now suffering from general anasarca and from anæmia; also has albumen in urine.

July 11: Patient died to-day. Cause of death, general debility following atrophy of liver, anæmia, and general anasarca. Autopsy held by Dr. Maximilian Herzog, pathologist of the Government Laboratories, the summary of whose autopsy report, with his full microscopical report, follows:

"Domingo Panol, male, Filipino, 37 years of age. Autopsy held three hours after death shows:

"Fatty degeneration of myocardium and kidneys with interstitial nephritis, advanced atrophic cirrhosis of liver, purulent abscess in the anterior abdominal wall just above Poupart's ligament, anæmia, and œdema of brain, general anasarca, and general profound anæmia. The serous cavities and soft tissues all contained serous fluid in considerable amounts. Old pale cicatrices of the right side of face; the integument in many places is somewhat scaly, but nowhere are there seen formations such as we find in tubercular leprosy.

"Microscopical examinations: Tissues were taken for microscopical examinations from the following places and organs: Two pieces from the left side of face from the area which appeared somewhat depressed, pale, and cicatricial in character; from the ear which formerly had presented a nodular tubercular appearance; from the kidneys, spleen, liver, heart, and from several peripheral nerves. These tissue were fixed in Zenker's fluid, subsequently embedded in paraffin, sectioned and stained with hæmatoxylin eosin and with Ziehl's carbolic-fuchsin and methylene-blue.

"In the sections from the skin and those from the ear, which latter took in all of the tissues of the concha, the subcutaneous layers showed patches of a subacute loose inflammatory infiltration composed of lymphoid cells. In these areas, however, neither epithelioid or giant cells are found. Likewise, lepra bacilli could not be demonstrated. The liver presented the histologic picture of a well-advanced cirrhosis. The increased interacinous connective tissue is mostly of a fusiform variety, with a few small, round, lymphoid cells here and there. Lepra bacilli are not demonstrated in the hepatic sections. An examination of the renal, splenic, cardiac, and nerve sections likewise fails to show lepra bacilli.

"In other words, neither the histologic nor the bacteriologic examination of this case furnished any evidence at all that the patient at the time of his death was suffering from leprosy either cutaneous or internal. (Signed) Herzog."

Case No. 12.—Arsenio Meranda, male, Filipino, age 19 years, admitted December 12, 1904; clinical diagnosis, hypertrophic leprosy; duration of disease said to be about two years.

On admission patient appears well nourished and in good general health. Has numerous dark-reddish, elevated leprotic patches on face, arms, legs, and more especially on back. The individual patches appear congested and puffed out, and seem to be about one-eighth inch higher than the surrounding skin. The fingers of both hands are drawn to a half-shut position, and there is slight contraction of the muscles of legs so that his walking is impaired.

December 14: Microscopical examination of skin scrapings from cheek shows lepra bacilli present.

January 9, 1905: X-ray treatment begun, applications being made to lesions on right side of face at a distance of 8 inches for ten minutes.

January 12: X-ray applied on the 9th, 10th, 11th, and 12th. To-day a small blister is noted on cheek about center of point of exposure.

January 19: Photograph marked No. 12, January 19, taken to-day. Blister on cheek gradually enlarged to size of thumb nail and then scabbed over. X-ray treatment has been transferred to a larger blotch on back, which is oval in shape, about 3½ by 2½ inches in size, abruptly elevated one-eighth of an inch above surrounding parts and deep red in color. A portion of the spot treated on the face shows same fading of color and reduction of elevation. One spot on forehead not treated directly has been reduced from a very perceptible elevation.

January 31: This patient has been treated seven times up to date, viz, on January 9, 10, 11, 12, 19, 20, 21, and 23, and shows marked reduction of the cutaneous manifestations of leprosy, not only at the points treated, but to just as great an extent on parts of the body most distant from the points of application.

July 1: There has been a wonderful improvement in all of the leprotic manifestations of this patient during the past five months, during which time he has had 17 applications of X-ray, making a total of 24 applications. All of the elevated, dark-colored spots on the face and body have disappeared and are replaced by slightly depressed, light-colored, scar-tissue spots, which appear slightly striated and drawn as if by newly formed connective tissue. The deformity of the fingers has disappeared from all except the little fingers, and has markedly decreased in them. The defect of the muscles of legs has entirely disappeared and the patient walks naturally.

July 21: Three microscopic examinations made, one from cheek and two from back; all found negative.

July 25: Three microscopical examinations made, one from face, one from scraping of mucous membrane of nose, and one from back; all found negative.

July 27: Microscopical examinations made of arms and cheek; all negative.

August 3: Three microscopical examinations made; all negative. Case considered cured.

August 8: Four microscopical slides made by Dr. M. Herzog and examined at Government Laboratories; all found negative.

August 16: Three slides made to-day and three made August 14 have all been negative.

September 30: This case remains apparently well, and frequent microscopical slides made recently have all proven negative for lepra bacilli.

Case No. 13.—Benedicto Mendoza, male, Filipino, age 25 years, admitted February 21, 1905; duration of disease, about two years; clinical diagnosis, atrophic and hypertrophic leprosy.

On admission patient appears to be in fairly good general health, and is a little above the average in intelligence. He has a slightly elevated, dark, leprotic patch on upper lip covering region of moustache and extending slightly beyond, a patch the size of a silver 25-cent piece about the center of left cheek, and one the same size on anterior surface of right elbow. The posterior surface of right elbow shows some anæsthesia and the skin is glossy. There is beginning atrophy of the right, little finger nail, and this finger is contracted to an angle of about 30 degrees, the next finger is bent to an angle of 15 degrees, and this entire area shows slight anæsthesia. A microscopical examination of skin scrapings from the patch on upper lip shows lepra bacilli.

May 8, 1905: X-ray treatment begun on upper lip.

July 1: X-ray treatment has been given 14 times, May 8, 9, 12, 13, 17, 19, 22, 24, 26, 29, 31, and on June 2, 5, and 9. He now appears practically well, only a slight discoloration remaining on upper lip. Lepra bacilli can not be found there.

August 1: It is now impossible to definitely outline the patch which formerly existed on the upper lip; not only has the infiltration entirely disappeared, but the discoloration has practically all been absorbed. It is difficult to locate the spot that formerly existed on the cheek and the other manifestations have likewise decreased. On several occasions I have been unable to find lepra bacilli, and on account of the entire disappearance of deposits I have included this case among the cases cured, although I am continuing treatment and am not satisfied of the permanency of the cure for two reasons: First, because the disappearance of symptoms has been too recent; and second, because in one of a number of slides taken August 3 from this case I found several doubtful acid-fast objects which appeared to be broken-up and degenerated lepra bacilli.

Slides taken on August 11 and 16 have all been negative.

General remarks.—As may be seen from the above, there is absolutely no doubt that at least one case, No. 5, of genuine leprosy has been cured by the application of X-rays. This case I have given in considerable detail, with every practicable form of confirmatory evidence, in order to establish the fact as a basis for future work along this line. As may be noted, this case was clinically diagnosed not only by myself but by numerous other physicians. The diagnosis was twice confirmed by microscopical examinations made at the Government Laboratories, and on three successive occasions confirmed by myself microscopically. The treatment and gradual improvement were watched by quite a number of physicians in Manila. Then we have the cure represented in a photograph, and also confirmed by myself several times microscopically, and finally confirmed both macroscopically and microscopically at the autopsy by the Government Laboratories. The only part of the record with which I am not satisfied is the photographic, as I would like to have had a photograph showing his condition on admission. The other two cases reported as cured are now in apparently good physical condition, and I hope that their future history may demonstrate the permanency of the cure.

HOW DOES THE X-RAY TREATMENT OPERATE?

I am inclined to believe that where a local lesion of leprosy is treated with the X-ray the organisms there localized are killed and their bodies absorbed by the system, thereby producing an immunity against the living organisms. This, as may be seen, would be practically analogous with the immunization of individuals against bubonic plague by injecting into them killed cultures of plague organisms. In our case we simply grow the culture of lepra bacilli in the human body as a culture medium and them kill them by use of the X-rays.

In support of this theory, I cite the following facts:

First.—The treatment of one leprous spot on a patient produces improvement in spots at a distance from the one actually treated.

Second.—The cure in the distant spots seems to progress parallel and to be just as complete as in the one treated.

Third.—The best results seem to be obtained only when treatment is pushed to the point of killing or beginning to kill the tissues, which would also probably be to the point of killing the organisms.

Fourth.—Cases in which there are massive localized leprous deposits, as in case No. 5, are most rapidly improved. As in these cases we have an abundant culture on which to operate and thereby produce immunity more rapidly.

Fifth.—In diffuse general involvement of slight degree or atrophic character where there are only a few scattered organisms we have had little success.

Sixth.—In two well-advanced cases, where the amount of new leprotic tissue was excessively great, the improvement was marked and rapid but followed by loss of general health and rapid physical decline. This may be an overdosage, so to speak.

LIMITATIONS AND DIFFICULTIES ENCOUNTERED IN THE USE OF THE X-RAY MACHINE.

Being so far away from the source of supplies, we have had much trouble in keeping a satisfactory supply of tubes, and in having repairs made to our X-ray machine. I have not as yet been able to find anyone about Manila who really understands all of the parts of an X-ray machine, so that defects could be located and repaired without delay. The repair work has fallen mostly upon myself, and while I am able to take the machine apart and frequently successfully repair it, still it is oftentimes a process of try and see, and often try again. The tubes frequently burn out or wear out, their internal resistance becoming too high, and not infrequently the sparking power of the machine falls from 10 inches to even 3 or 4 inches, thus rendering it useless. One time the batteries are at fault, next and most frequently the interrupter is at fault, then the Leyden apparatus is blamed, and finally the internal resistance of the tubes becomes too great. So I must admit that to use an X-ray machine from twenty minutes to one hour a day over a period of several months and get active effective results from it is not an easy matter.

In conclusion I wish to express my gratitude to Maj. E. C. Carter, United States Army, our former Commissioner of Public Health, for the interest which he took in procuring the necessary apparatus and for the encouragement which he gave me during the progress of this work.

H. Brookman Wilkinson,
Physician in charge of San Lazaro Hospitals.

San Lazaro Hospitals,
Manila, P. I., September 30, 1905.

REPORT ON SAMPALOC HOSPITAL.

By EDWIN C. SHATTUCK, M. D. *Physician in charge.*

MANILA, P. I., *September 1, 1905.*

SIR: I have the honor to render the following report of work done at this hospital and in the women's department of San Lazaro Hospitals during the period commencing September 1, 1904, and ending August 31, 1905.

The women's department of San Lazaro Hospitals continued practically without change from the date of last report, September 1, until December 1, 1904. In November, 1904, the urgent need for some adequate provision for the indigent insane led to the establishment of an insane department in lieu of the women's department in San Lazaro Hospitals and the removal of the latter department to its present quarters.

This change was accomplished between December 1 and 10, 1904, the Sampaloc Hospital being in full operation on the latter date. Dr. George D. Fairbanks was in charge at this time and during December.

The Sampaloc Hospital occupies the resident portion of the building situated at No. 4 Calle Alejandro VI. It consists of a basement, comprising offices, steward's room, drug and store room, laundry, driveway, and small garden, a second floor comprising wards, hallway, dining rooms, kitchen, nurse's room, operating room, and bath rooms, and is equipped for the accommodation of seventy patients.

The personnel of the hospital consists of an attending physician, house physician, steward, trained nurse, matron, 3 native nurses, assistant cook, 6 muchachos, and 2 laundresses.

The wards and dining rooms are so arranged that each nationality has its own, so far as possible, and since the establishment of the hospital there has been no friction of any kind, all seeming well satisfied with their treatment.

The methods pursued have been, in general, the same as last year, efforts toward improvement being made wherever possible.

An attempt has been made to divide the responsibility and work of the hospital so that the best results possible would be accomplished. The dispensing of medicines is done by the house physician under the supervision of the attending physician. The trained nurse has charge of the operating room, and is responsible for its management. The matron has charge of the wards, hallways, etc., assisting the steward in the general management of the hospital. The clerical work is divided between the steward and attending physician.

The possession of a new card filing section makes it possible to keep the history cards securely, and at the same time when cards are sorted and completely indexed any card can be turned to for reference almost instantly.

The work accomplished during the entire time covered by this report may be stated as follows:

Number of patients remaining September 1, 1904	106
Number of patients admitted	814
Number of patients discharged or transferred	874
Number of patients died	0
Number of patients remaining September 1, 1905	28

The average number treated per day for the total period was 63. It was 81 in September, 75 in October, 60 in November, 38 in December, 55 in January, 60 in February, 72 in March, 72 in April, 62 in May, 51 in June, 53 in July, and 53 in August.

The average cost of subsistence per patient per day was, during September, ₱0.36; in October, ₱0.35; in November, ₱0.40; in December, ₱0.38; in January, ₱0.26; in February, ₱0.23; in March, ₱0.27; in April, ₱0.30; in May, ₱0.30; in June, ₱0.35; in July, ₱0.34; in August, ₱0.34.

During September 2 patients were given into the custody of the police for misconduct, uncured, and 1 was transferred to San Juan de Dios Hospital, with a complication of malarial fever. During October 10 patients were turned over to the police uncured, for misconduct. During November 1 patient was turned over to the police and 1 was transferred to the contagious disease hospital, with measles. December was uneventful. In January 1 was turned over to the police, uncured, and 2 were sent to the San Juan de Dios Hospital. The diagnosis of the latter were hepatitis, subacute; gastritis, acute; and stomatitis and endometritis. In February 1 case was transferred to San Juan de Dios Hospital with acute peritonitis. In March there were no transfers. In April 1 case was turned over to the police, uncured, and 2 were transferred to San Juan de Dios Hospital; diagnosis, hepatitis, acute, and constipation and diarrhea, acute. In May 1 was transferred to San Juan de Dios Hospital, diagnosis, pelvic peritonitis, and 1 discharged uncured to leave the Islands. During June and July there were no transfers. In August 2 cases were transferred to San Juan de Dios Hospital; diagnosis, fever, undetermined, and hemorrhoids, respectively.

Very respectfully,

EDWIN C. SHATTUCK,
Physician in Charge.

The COMMISSIONER OF PUBLIC HEALTH, *Manila, P. I.*

REPORT OF VETERINARY DIVISION.

By David G. Moberly, *Acting Chief Veterinarian.*

Manila, P. I., *September 9, 1905.*

Sir: I have the honor to submit for your information a report of the veterinary corps during the period from September 1, 1904, to August 31, 1905.

The records of this office show that 12,708 animals have been inoculated against rinderpest by the serum method and 935 by the simultaneous method.

Rinderpest has been reported from 19 provinces, covering 59 municipalities.

Owing to a short supply of serum throughout the year, inoculations were only made among herds where rinderpest was present.

By the serum method we have been able to stamp out epizootics in every locality where inoculations were made, but it has been difficult to keep any one place permanently free from the disease on account of not having serum enough to inoculate the animals of the entire locality.

There has been also a constant traffic in live stock throughout the Islands during the past year, many animals being taken from an infected district to a noninfected district, while nonimmune animals have been taken into infected regions, thus disseminating the infection throughout the provinces. This condition will remain so long as no restrictions are placed on the moving of animals from infected districts to noninfected districts.

As there are weekly importations of live cattle from Hongkong, Singapore, and Saigon, all infected ports, it can be seen that rinderpest is continually coming into the Islands, and the infection being distributed throughout the provinces by the shipment of imported cattle from Manila. This can be remedied by prohibiting the importation of live cattle from infected countries or by establishing quarantine stations at all ports of entry in the Archipelago and requiring that all animals be rendered immune before leaving said stations, and along with this measure a law should be enacted making it obligatory that all nonimmune animals, susceptible to rinderpest, be inoculated by the simultaneous method. While there is danger of a loss of from 1 to 10 per cent by this method, such a small loss is not to be compared to the loss from the ravages of the disease. Even if the mortality reaches 25 per cent from the inoculations, it would be economy to inoculate every animal in the Islands.

Instructions were issued from this office on August 14 of this year to all inoculating parties in the provinces to discontinue the serum method and use only the simultaneous method in the future. Many obstacles are encountered when this method is employed, in the way of prejudices of the natives against virulent blood being used for inoculating. Many large cattle owners prefer to take chances with the disease, notwithstanding their experiences in 1901 and 1902, when more than 95 per cent of attacked animals succumbed. For this reason it is urgently recommended that an obligatory law be enacted by the Philippine Commission as referred to above.

Four thousand three hundred and fifty animals have been examined in the city of Manila for surra; 195 of these were found positive and condemned. Surra has been reported from 7 provinces, as well as in the city of Manila. The majority of cases have been sporadic among horses, while carabaos are found to be infected in large numbers in Bulacan and Laguna Provinces. There is no means known at present whereby surra can be eradicated except by segregation of all exposed animals and the destruction of infected ones and a thorough disinfection of corrals.

Seventy-seven thousand six hundred and fifty-two animals have been inspected for slaughter at the public abattoir in Manila. One American veterinarian and a native inspector are detailed for this work. One hundred and thirty-six carcasses have been condemned on inspection and cremated.

One thousand one hundred and twenty-seven carabaos and cattle were examined for shipment to the provinces. These examinations were made at the request of owners, as cattle are more rapidly disposed of in the provinces when accompanied by a certificate of health.

Seventy-one horses have been condemned and cremated for glanders in the city of Manila. This disease has been held in check during the year in Manila, but in the provinces, where practically no sanitary precautions against glanders are carried out, the disease is present in every barrio in the Archipelago. This disease is one of the most important affecting the equine race, but owing to the fact that carabaos in this country are the principal beasts of burden, our work has been given over almost exclusively to the controlling of rinderpest.

Foot-and-mouth disease has been reported from nearly every province, as well as in Manila. As this disease is readily amenable to treatment, instructions have been given owners, and the disease has caused but little trouble except where the animals were working when receiving treatment.

Hog cholera and swine plague are always present in this country, the two diseases killing probably 70,000 hogs annually. The average (killing) hog is worth about ₱42.00 on the market in Manila, making the total loss to the swine industry amount to the enormous sum of ₱2,940,000.

Chicken cholera is prevalent in most of the provinces, and according to reports from the provincial health authorities the mortality reaches above 100,000 annually, causing an approximate loss of ₱60,000 to the people from this source alone. Chicken cholera and hog cholera can be controlled by proper sanitary measures.

Epizootic lymphangitis, a disease somewhat resembling cutaneous glanders, is widely distributed over the Islands and occasions severe loss to horse owners, owing to the fact that the animals are incapacitated for work for long periods of time. This disease is amenable to treatment, but is of long duration; the mortality is about 5 per cent.

The organism of Texas fever, an infectious disease of cattle, is always present through the medium of the cattle tick (*Boophilus australis*), which is a source of danger to all cattle imported into the Islands from noninfected countries. It is believed by the veterinarians of the Far East that all or nearly all of the cattle of the Philippines, China, Straits Settlements, and part of Australia are immune to this disease. The mortality is about 60 per cent.

Dermatitis gangrenosa is another contagious disease affecting horses, and which has been a source of trouble to American horses in this country. It has been present at intervals in the Insular Purchasing Agent's corral for the past three years. The mortality from this disease is very low when proper treatment is applied early, but if left to itself the mortality may reach as high as 15 or 20 per cent.

Hemorrhagic septicæmia, a disease affecting all domestic animals, has been reported in Occidental Negros and in the city of Manila. This disease has a mortality of about 90 per cent, but is not readily contagious and can be controlled by proper sanitary measures.

Anthrax was reported by Dr. R. H. McMullen, formerly of this department, to be prevalent in the Province of Benguet, and from the history obtained from the natives of that section the disease has existed there for several years, occurring at the beginning of the rainy season each year and apparently dying out with the coming of the dry season. This disease is the most deadly of any which affect the domestic animals and is communicable to man.

Provision was made for 15 veterinarians for the veterinary division, which number has never been filled at any one time owing to the difficulty of inducing suitable men to come here from the United States, and at the present time the demand in the home land for veterinarians far exceeds the supply. Three veterinarians have resigned during the past year and 2 were transferred to other Bureaus. Six veterinarians have been admitted to the corps, 5 having been sent from the United States and 1 appointed in Manila. The present force comprises 11 veterinarians, including the chief veterinarian, who is in the United States on leave of absence.

The number of inoculators for the division was placed at 20 Americans and 10 Filipinos. The present force consists of 15 Americans and 3 Filipinos. Also, there are 3 natives employed as assistant meat inspectors, one being detailed for duty at the public slaughterhouse and the other two being detailed to inspect animals entering the port of Manila by way of the river and railroad.

The sum of ₱13,917.08 was collected during the year from veterinary collections for port inspections.

The accompanying charts will show in detail the work done by this Division.

Very respectfully,

DAVID G. MOBERLY,
Acting Chief Veterinarian.

The COMMISSIONER OF PUBLIC HEALTH, *Manila, P. I.*

Serum treatment given animals in provinces from September 1, 1904, to August 31, 1905.

Province.	Carabaos.	Cattle.
Negros Occidental	2,013	138
Surigao	11	
Pampanga	3,108	106
Abra	307	91
Rizal	1	2
La Union	600	58
Leyte	596	4
Cagayan	89	148
Cavite	915	190
Albay	187	
Ambos Camarines	1,551	125
Bohol	354	
Misamis	313	105
Iloilo	19	2
Mindoro	120	
Ilocos Norte	1,076	12
Dapitan	250	2
Total	11,460	983
Grand total	12,443	

Rinderpest was prevalent in every herd where serum was employed.

Inspections of animals in provinces.

	Bulacan, November, 1904.	Occidental Negros.		Albay, June, 1905.	Rizal, July, 1905.	Benguet, August, 1905.	Total.
		March, 1905.	July, 1905.				
Surra:							
Horses	234			23			257
Carabaos	702						702
Horses, positive	9			23			32
Carabaos, positive	20						20
Cholera:							
Hogs		25					25
Positive		25					25
Foot-and-mouth disease:							
Carabaos					14	134	148
Cattle					2		2
Positive					16	134	150
Glanders:							
Horses	1		35		25		61
Positive	1		27		2		30

Microscopical examinations for surra.

Month.	Slides examined.				Negative.			Positive.			Horses condemned for surra.
	Cattle.	Carabaos.	Horses.	Total.	Cattle.	Carabaos.	Horses.	Carabaos.	Horses.	Total.	
September		77	766	843		74	747	3	19	843	15
October	25	27	798	850	25	27	790		8	850	9
November		32	572	604		30	566	2	6	604	6
December		2	1,081	1,083		2	1,028		53	1,083	54
January	12	233	72	317	12	209	70	24	2	317	2
February	9	72	75	156	9	67	75	5		156	1
March	4	42	288	334	4	34	287	8	1	334	
April			12	12			2		10	12	10
May			29	29			24		5	29	5
June			4	4			2		2	4	2
July			2	2					2	2	3
August			116	116			115		1	116	1
Total	50	485	3,815	4,350	50	443	3,706	42	109	4,350	108

Number of animals condemned upon inspection.

Month.	Inspections for shipment to provinces.		Condemned on inspection.			
			Horses.		Other animals.	Total.
	Cattle.	Horses.	For glanders.	For surra.		
September	288		2	15	7	24
October	98		9	9	4	22
November	60		13	6	7	26
December	40		9	54	8	71
January	100		9	2	30	41
February	100		4	1	3	8
March	32				1	1
April	69		5	10	2	17
May	187		11	5	8	24
June	122	1	5	2	16	23
July	22	1	2	3		5
August	62		2	1	1	4
Total	1,126	2	71	108	87	266

Inspections on arrival in city.

Month.	Number of inspections.	Cattle.	Carabaos.	Horses.	Hogs.	Sheep.	Goats.	Other animals.	Total.	Amount.
September	538	4,178	371	157	4,541	7	73	11	9,338	₱1,416.70
October	620	2,841	360	131	4,626	10	65	29	8,062	1,193.40
November	551	2,422	63	108	4,271	16	48	6	6,934	1,059.90
December	534	3,089	34	193	4,244	16	38	38	7,664	1,183.00
January	313	2,498	229	136	4,268	10	64	18	7,223	1,078.00
February	487	2,137	42	153	4,166	4	39	9	6,550	1,025.60
March	604	2,274	57	248	4,832	26	90	12	7,539	1,216.80
April	588	1,896	42	182	4,724	11	58	10	6,923	1,067.90
May	588	2,546	68	647	4,628	18	88	16	8,011	1,189.50
June	615	2,577	95	143	4,136	5	53	21	7,030	1,115.60
July	653	2,516	118	171	4,143	8	43	12	7,011	1,129.70
August	634	3,194	128	607	3,991	10	51	9	7,990	1,241.70
Total	6,670	32,168	1,607	2,876	52,570	141	722	191	90,275	13,917.80

Slaughtered in matadero and condemned.

Month.	Slaughtered.					Condemned.		
	Cattle.	Hogs.	Sheep.	Goats.	Total.	Cattle.	Hogs.	Total.
September	2,106	4,921	--------	2	7,029	4	9	13
October	2,289	5,032	--------	--------	7,321	6	12	18.
November	1,726	4,736	1	--------	6,463	2	5	7
December	1,662	4,761	3	--------	6,426	1	8	9
January	1,726	4,718	1	1	6,446	2	8	10
February	1,431	4,558	--------	--------	5,989	--------	10	10
March	1,486	4,894	2	--------	6,382	2	9	11
April	1,259	4,883	--------	--------	6,142	3	13	16
May	1,469	5,060	1	--------	6,530	1	9	10
June	1,442	4,688	--------	1	6,131	2	13	15
July	1,756	4,710	3	2	6,471	--------	6	6
August	1,706	4,613	--------	3	6,322	4	7	11
Total	20,058	57,574	11	9	77,652	27	109	136

Cattle condemned at Government abattoir.

Month.	Heads.	Lungs.	Livers.	Feet.	Legs.	Lips.	Tongues.	Stomachs.	Orbits.	Ribs.	Total.
September	1	201	486	20	4	------	------	------	------	------	716
October	------	79	530	17	------	23	------	------	------	------	655
November	------	93	436	------	------	17	------	------	------	------	548
December	------	188	436	4	------	3	------	------	------	------	632
January	------	86	547	------	------	------	------	------	------	------	635
February	1	172	364	------	1	------	------	------	------	------	538
March	------	169	424	30	2	------	------	1	------	------	628
April	------	133	324	541	------	7	------	------	------	------	1,008
May	7	156	302	672	------	26	5	------	3	2	1,174
June	------	109	330	429	------	23	3	------	------	------	896
July	------	102	334	493	------	26	------	------	------	------	955
August	------	117	374	228	1	10	------	------	------	------	734
Total	9	1,605	4,887	2,434	8	135	8	1	3	2	9,119

Government abattoir.

Month.	Hogs condemned.				Sheep and goats.				
	Lungs.	Livers.	Feet.	Total.	Sheep killed.	Goats killed.	Total.	Sheep livers condemned.	Total.
September	257	224	374	864		2	2		
October	226	215	343	796					
November	204	156	334	699	1		1		
December	206	167	396	777		3	3		
January	104	161	413	686	1	1	2		
February	182	150	378	720					
March	192	101	547	849	2		2	1	1
April	299	136	486	934					
May	361	137	564	1,071	1		1	1	1
June	355	122	626	1,116		1	1		
July	342	115	587	1,050	3	2	5		
August	267	109	511	894		3	3		
Total	2,995	1,793	5,559	10,456	8	12	20	2	2

Inoculation of cattle and carabaos against rinderpest by simultaneous method, April 1, 1904, to June 30, 1905.

Pueblo.	Province.	Date.	Veterinarian.	Carabaos.	Deaths.
		1904.			
Calumpit	Bulacan	May 7	Glaisyer	412	29
Goa	Ambos Camarines	July 8	Smith	80	
Lagonoy	do	July 18	do	63	
San Miguel	do	July 7	do	98	
Tigaon	do	July 3	do	214	
San Pascual	Burias	Aug. 25	Moberly	[a]68	
Total				935	29

[a] Government animals. These inoculations made as test. No reactions.

INDEX.

Page.
Act regulating burial grounds 86
Act regulating medical school 11
Act regulating quarantine, etc., of animals 30
Animals:
  Inoculation of 184, 187
  Inspections of 185, 186
Beautifying Manila 36
Beri-beri 74
Bilibid Prison:
  Deaths 130
  Medical department 60
Blind 139
Births 76, 101
Board of dental examiners 64
Board of medical examiners 64
Board of pharmaceutical examiners 64
Bubonic plague 10, 69, 137, 144, 146, 169
Bureau of Health:
  Organization of 17
  Reports of 7, 14
Burials 132
Burial of paupers 45
Care of insane, aged, etc 63
Cattle condemned 29, 185, 186
Cavite 10
Cemeteries 82
Chief health inspector 141
Chinese dentistry 81
Chinese druggists 82
Chinese medicine 79
Cholera 7, 70, 139, 142, 144, 170
Civil Hospital 49
Clerical division 19
Climate 95
Colegio de Médicos, etc 49
Collection and disposal of night soil 41, 161
Collection and disposal of garbage 42, 162
Comparative mortality 102
Constabulary medical service 59
Copper sulphate for water 13
Corral 153
Crematories, report of 133
Death, accidental 46

Deaths: Page.
  By districts ... 102
  By race, sex, and age ... 108
  Causes of, among residents ... 103
  Rate in Manila ... 76, 101, 102
  Transients ... 78, 106
  Without medical attendance ... 78
Disinfections ... 43, 51, 135, 153
Disinterments ... 133
Dispensaries ... 62
Division of—
  Disbursements ... 18
  Hospitals ... 23
  Inspections, etc ... 17
  Property ... 20
  Sanitary engineering ... 19, 156, 157, 158
  Statistics ... 18
  Vaccinations ... 20, 145
Drainage ... 159
Dysentery ... 10, 73
Electric cars ... 46
Esteros ... 41
Former boards of health ... 16
Free dispensaries ... 62
General hospital ... 55
Goats condemned ... 187
Habitations ... 37
Health resorts ... 92
Health stations:
  Cases detected at ... 144
  Sanitary work ... 143
Houses condemned ... 157, 162
Hogs condemned ... 187
Immigration ... 67
Industrial tax ... 65
Infant mortality ... 77
Infectious diseases ... 50, 169
Insane ... 9, 50, 138, 167
Insanitary habits ... 33
Inspection:
  Food and drink ... 35
  General ... 134
Laboratory ... 93
Lalomboy ... 59
Launch, Bureau of Health ... 45
Leper colony ... 26, 165
Leprosy ... 9, 50, 71, 137, 144, 168, 171
Library, Bureau of Health ... 65
Licenses ... 134, 152
Light, etc ... 159
Lowlands ... 43
Malaria ... 74
Manila water supply ... 12

Page.
Markets and slaughterhouses 39
Marine-Hospital Service 67
Marriage 75
Medical education 10, 65
Medical inspectors 153
Medical organizations 46
Medical school 65
Medical school act 11
Mineral waters 92
Mosquitoes 146
Mosquito marshes 44
Municipal dispensaries 62, 131, 150
Municipal free clinics 63
Municipal midwives 62, 152
Municipal physicians 62, 131, 148
New legislation 12, 163
Non-Christian tribes, medical service 59
Noninfected herds 29
Nurses 75
Occupations followed 129
Occupations, offensive 39
Opium smoking 44
Orders 156, 157, 158
Organization of Bureau of Health 17
Overcrowding 38
Pail system 42, 133
Plans 158, 163
Plumbing 36
Police medical service 61
Population of Manila 101, 152
Practitioners, illegal 79
Provincial health division 31
Provincial hospitals 56
Prosecutions 158, 163
Prostitutes 153, 167
Public baths 35
Public closets 42
Quarantine 67
Quarantinable diseases for four years 152
Rats, destruction of 40, 144
Report of Bureau of Health, Part I 7
Report of Board of Health, Part II 14
Report of chief health inspector 141
Report of physician in charge:
  Sampaloc Hospital 180
  San Lazaro Hospital 166
Report of sanitary engineer 156
Report of veterinary division 182
Report on X-ray treatment 171
Rinderpest 29, 187
River population 38
Sampaloc Hospital 23, 25, 132, 167, 180

Page.

San Juan de Dios Hospital 51
San Lazaro Hospital 23, 49, 132, 166
San Lazaro morgue and crematory 44, 51, 170
Sanitary code 33
Sanitary engineer, report of 156
Sanitary inspections of city 34, 141, 164
Sanitary laws 99
Sanitary maintenance of public places 34
Sanitation in provinces 82
Schools, inspection of 43
Serum 184
Sheep condemned 187
Smallpox 137, 144, 169
Spitting ordinance 73
Stables 28
St. Luke's Hospital 53
St. Paul's Hospital 54
Street cleaning 40
Suggestions 99
Surra 28, 185
Tiendas 36
Transportation 45
Tuberculosis 72
Typhoid fever 9, 75
Vaccination 20, 136, 137, 145, 146
Vaccine virus 136
Vaults cleaned 134
Veterinary division 27, 140, 182
Water, treatment of, with copper sulphate 13
Water supply, Manila 12
Widening streets 37
X-ray, treatment of leprosy with 171

○

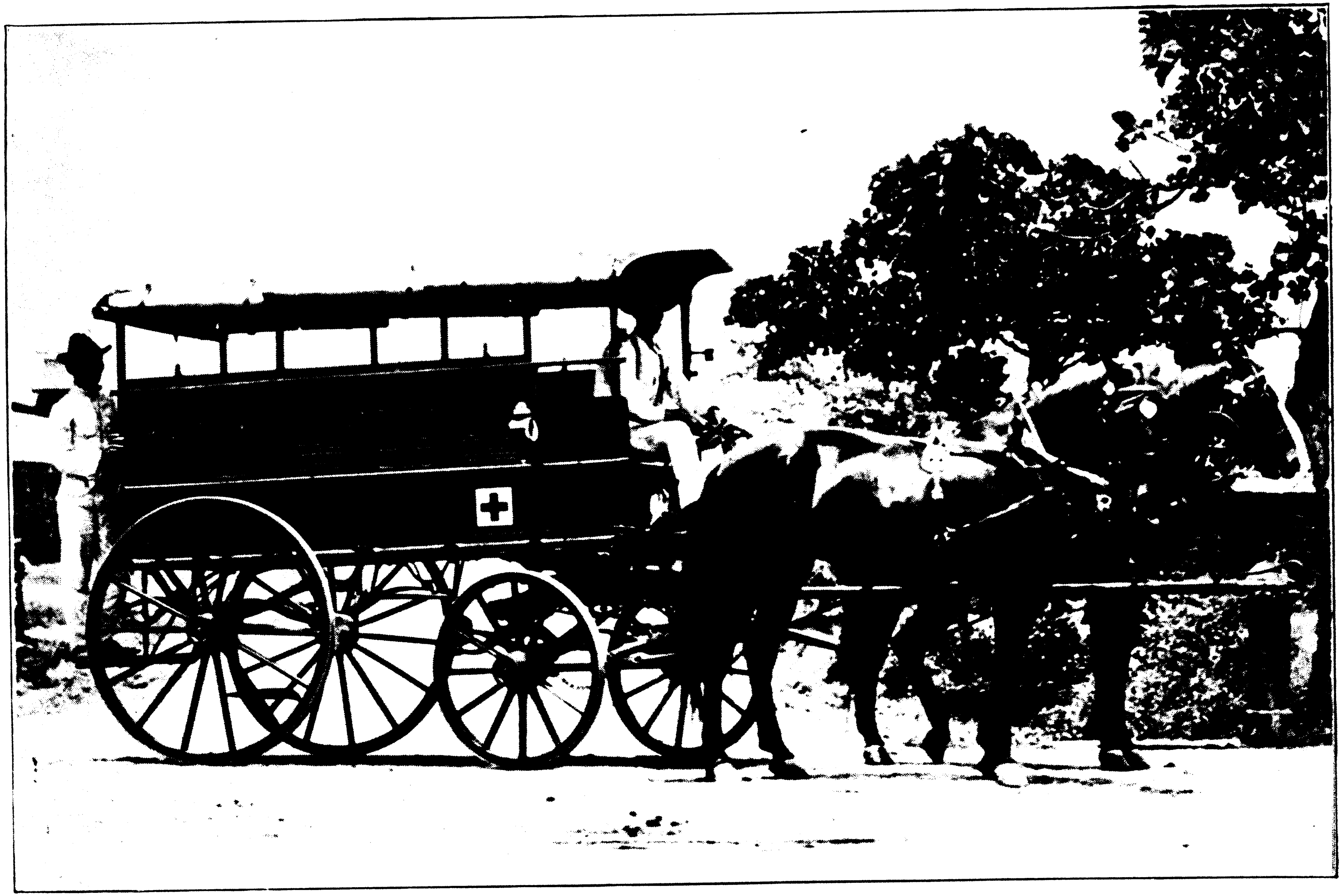

Plate I. BOARD OF HEALTH AMBULANCE.

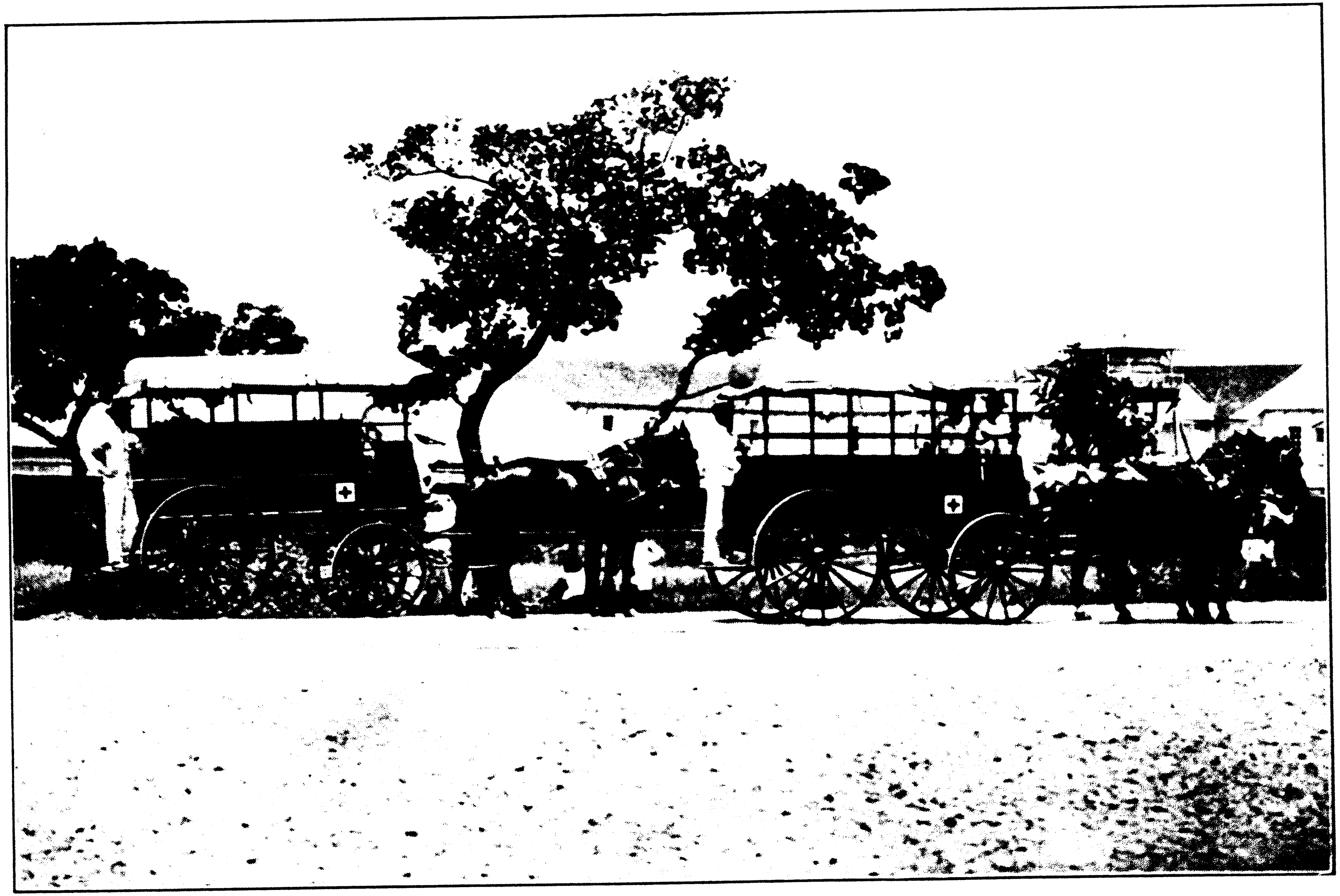

Plate II BOARD OF HEALTH AMBULANCES.

PLATE III. THE OLD BUILDINGS OF THE SAN LAZARO LEPER HOSPITAL AT CEBU. P. I.

PLATE IV. THE PRESENT SAN LAZARO LEPER HOSPITAL AT CEBU, P. I. (VIEW NO. 1.

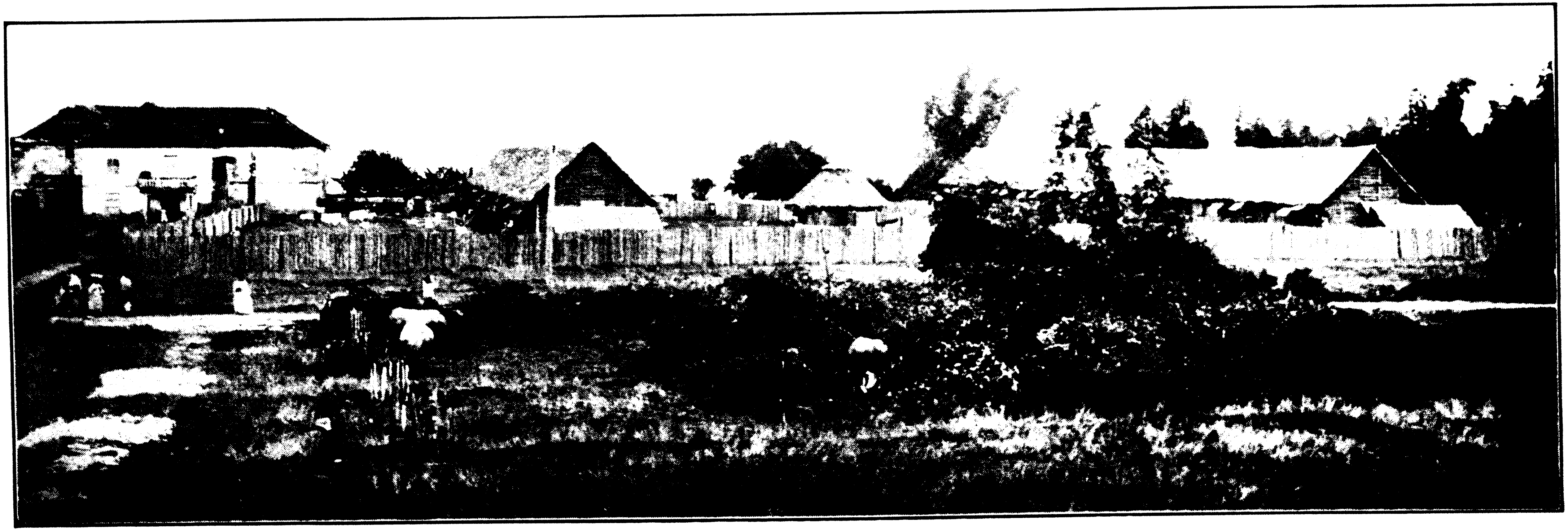

Plate V. THE PRESENT SAN LAZARO LEPER HOSPITAL AT CEBU. P. I. VIEW NO. 2.)

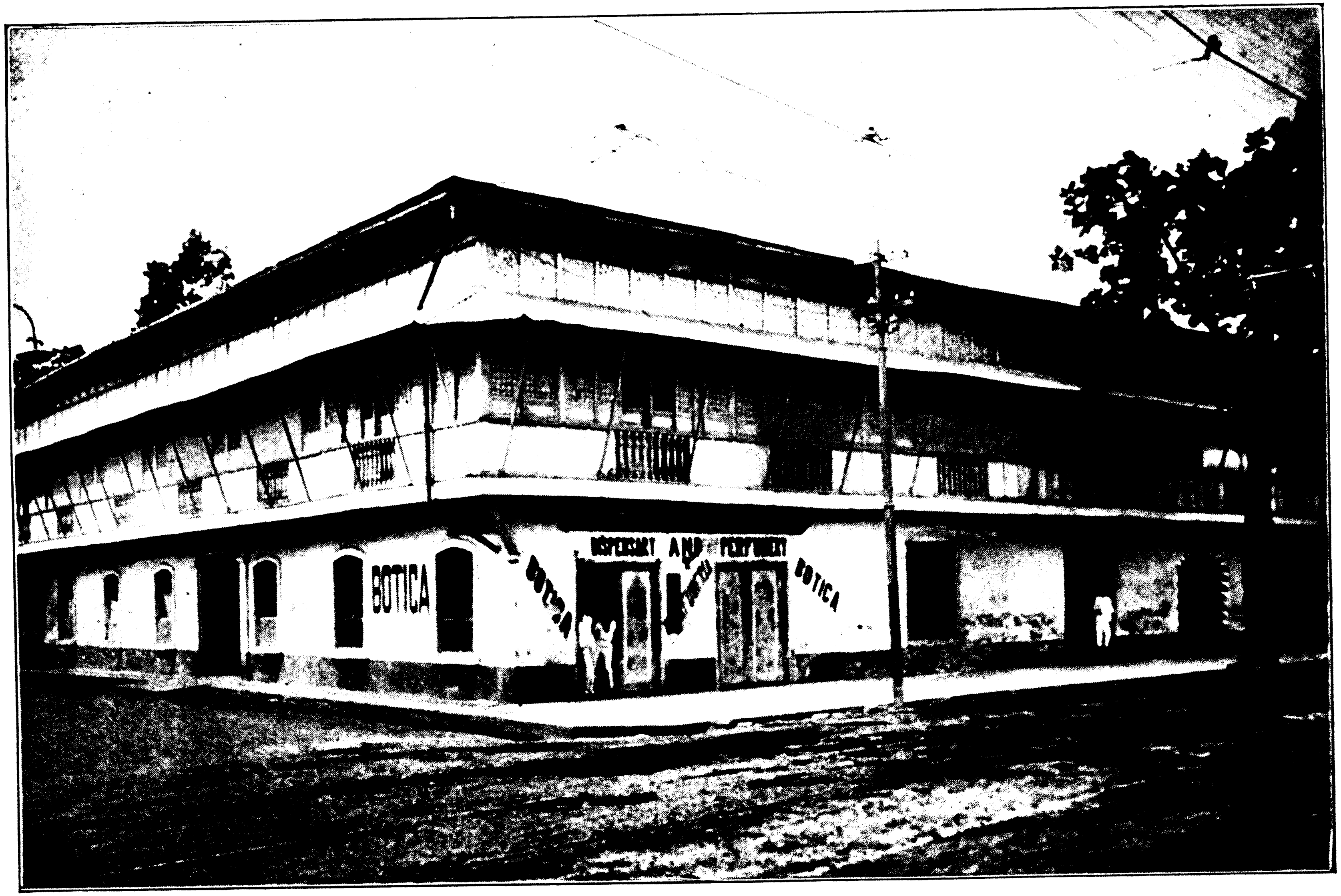

PLATE VI. SAMPALOC HOSPITAL, MANILA, P. I.

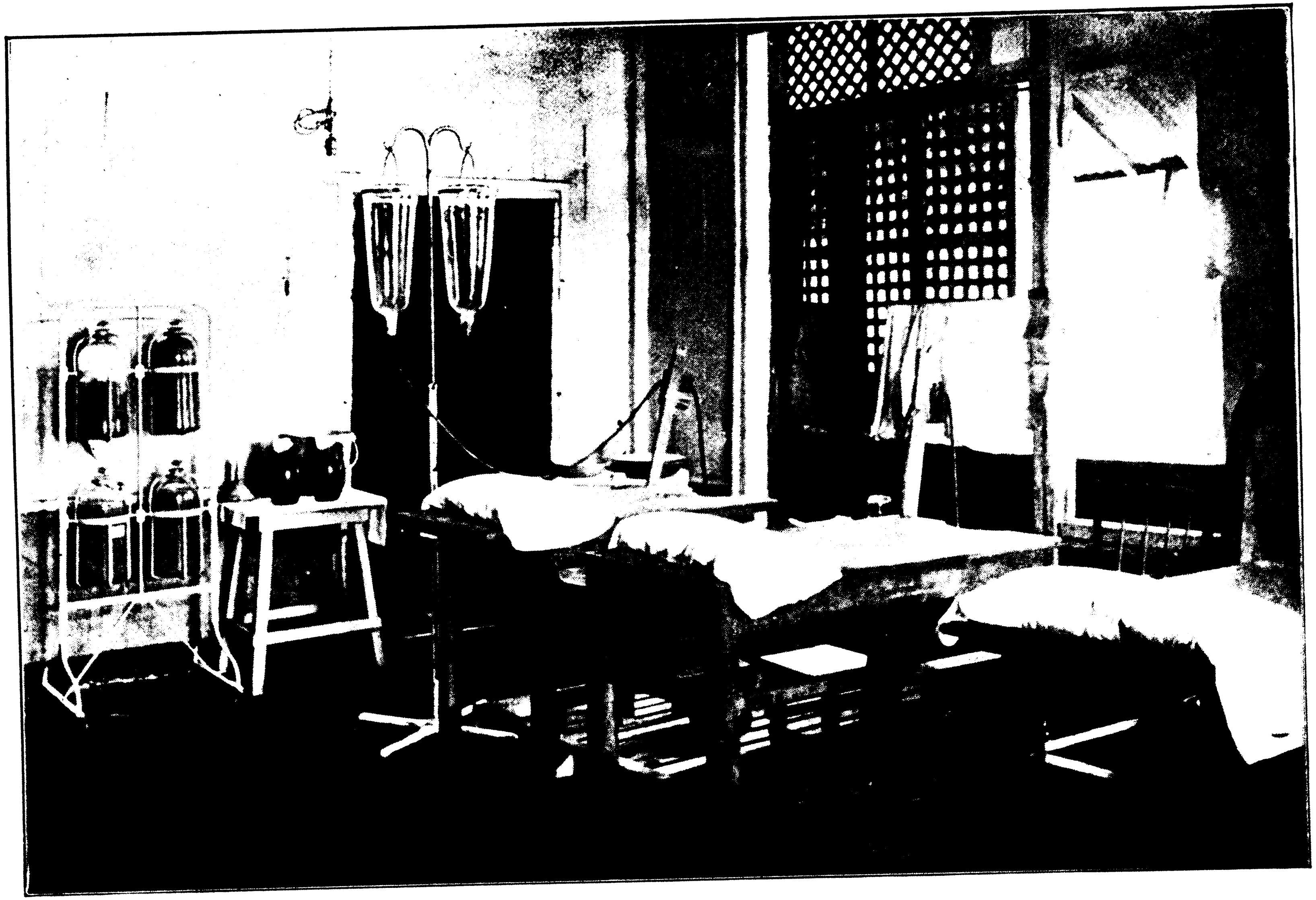

Plate VII. OPERATING ROOM, SAMPALOC HOSPITAL.

Plate VIII. A GROUP OF AMERICAN SANITARY INSPECTORS.

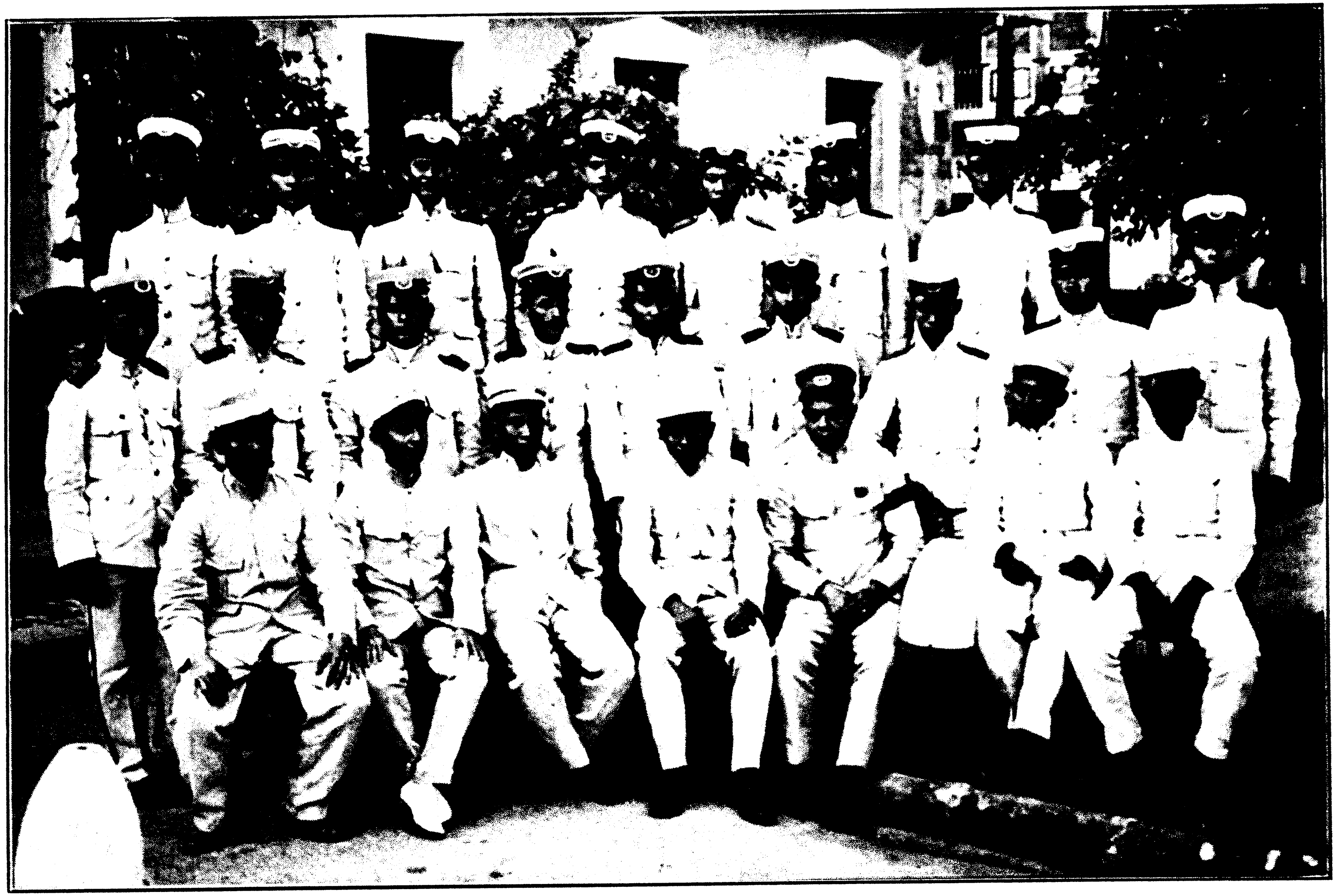

Plate IX. A GROUP OF ASSISTANT SANITARY INSPECTORS AND SANITARY POLICE.

Plate X. STATION A, BOARD OF HEALTH, SAN NICOLAS DISTRICT, MANILA.

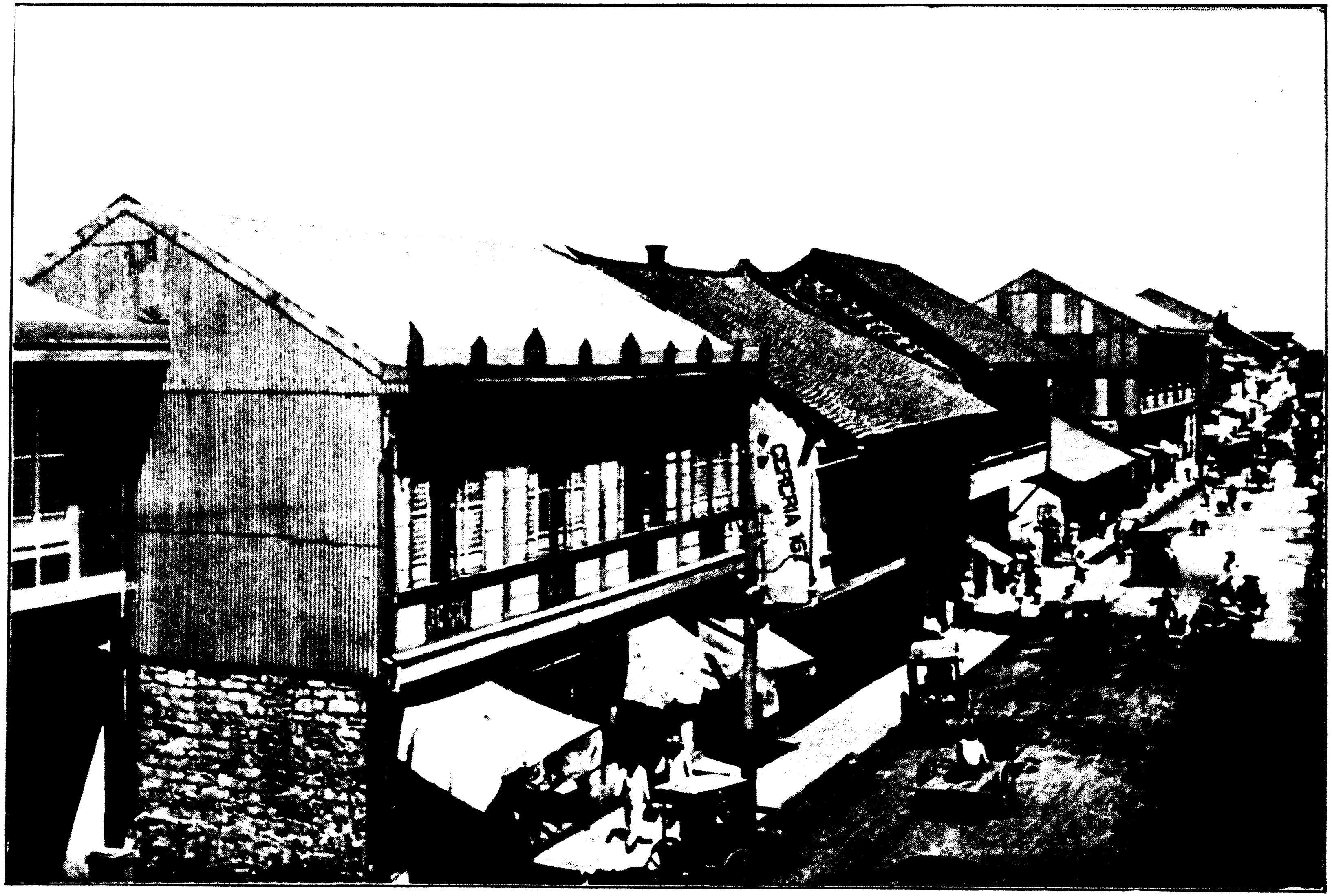

PLATE XI. A STREET SCENE IN HEALTH DISTRICT NO. 1. STATION A.

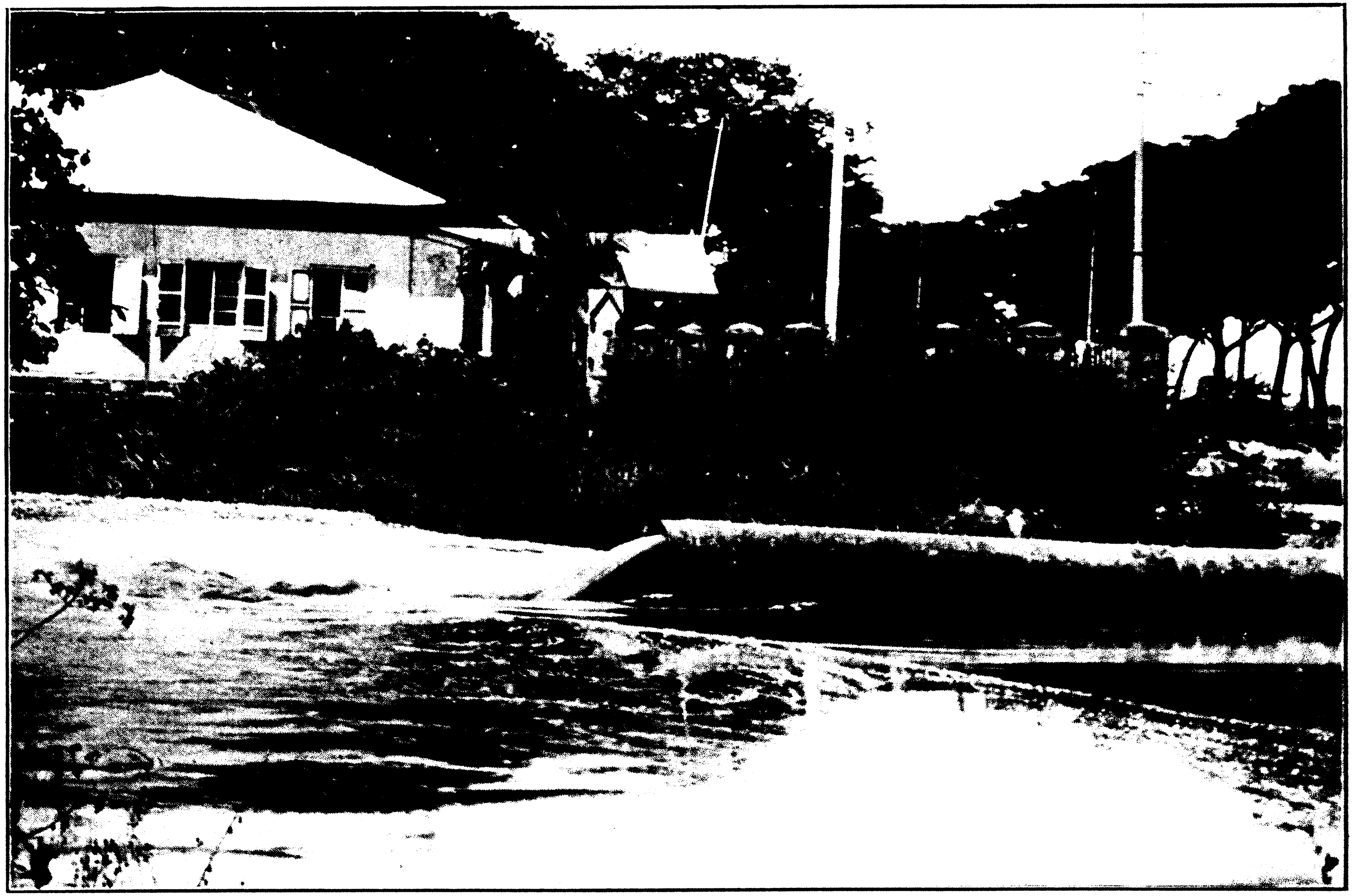

Plate XII. FILLING IN THE MOAT.

Plate XIII. FILLING IN LOWLANDS IN MANILA.

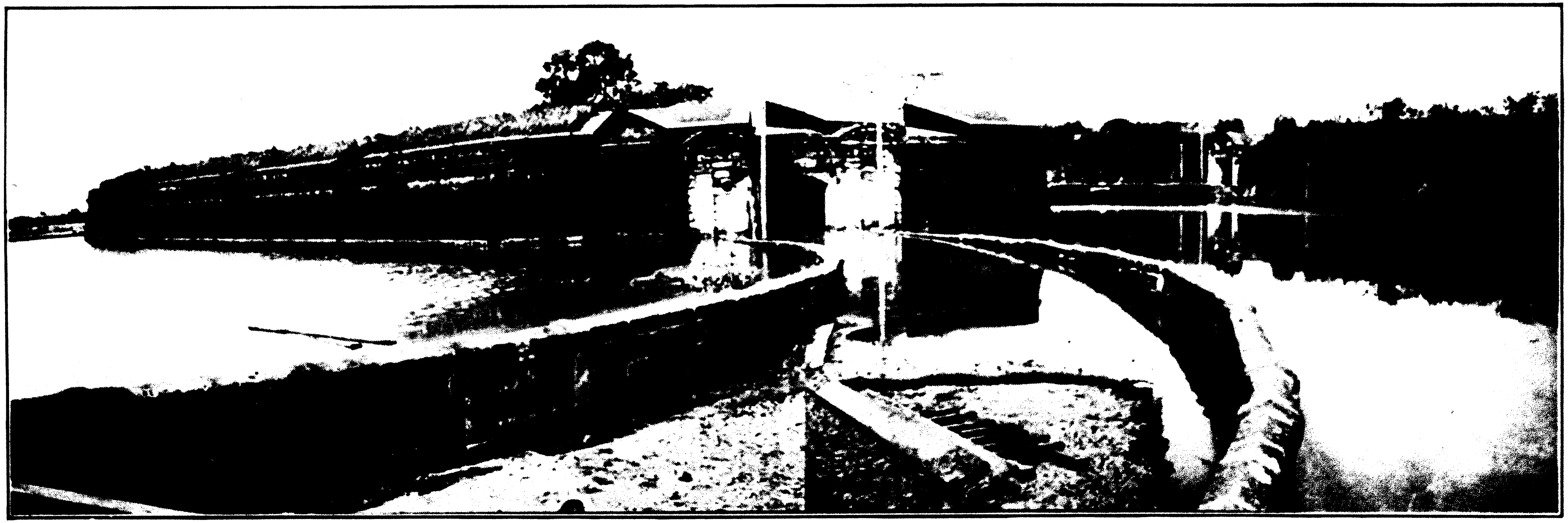

Plate XIV. A VIEW OF THE PALACIO GATE IN THE CITY WALL, SHOWING THE MOAT FILLED WITH WATER.

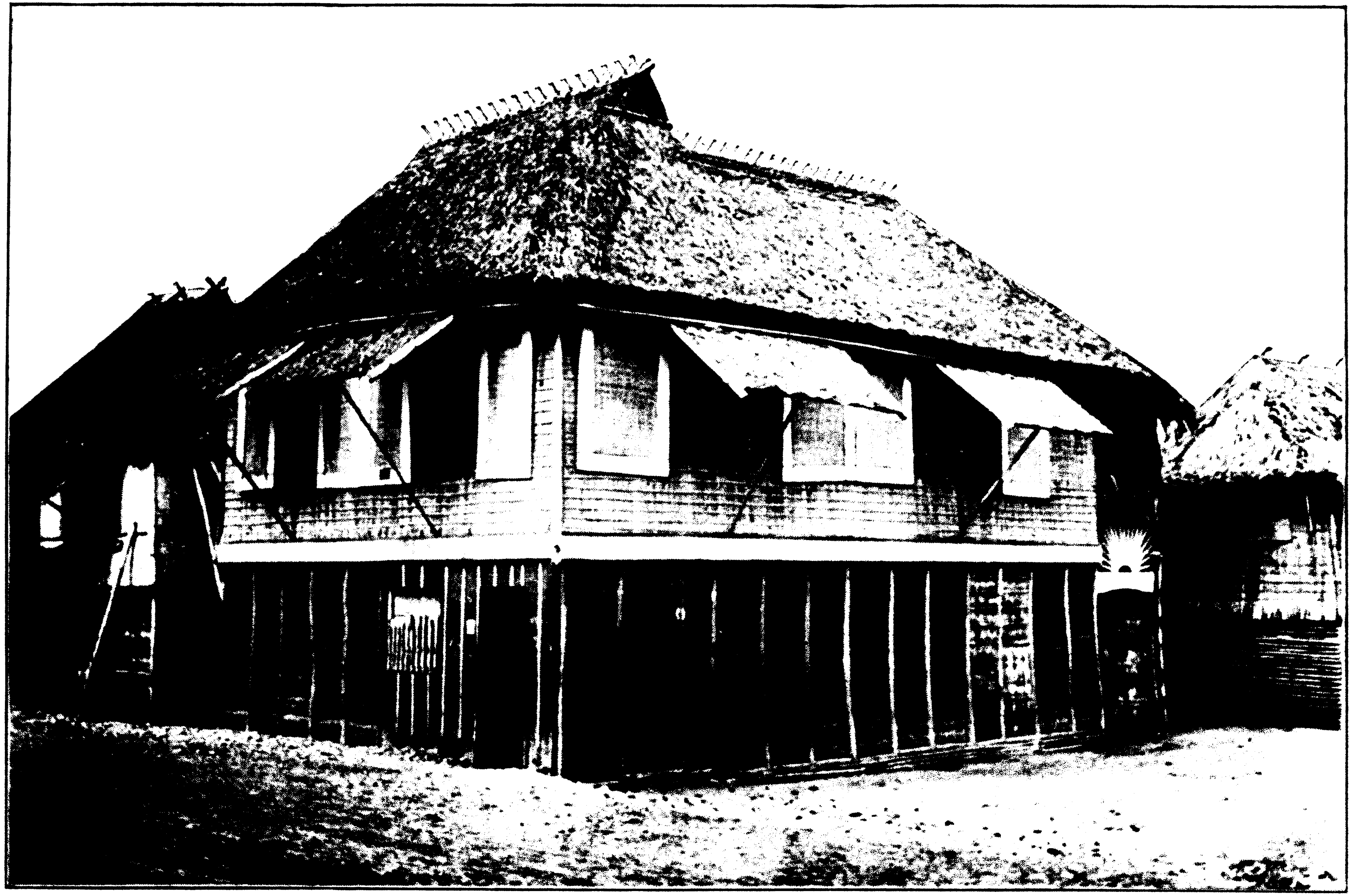

Plate XV. TYPE OF FILIPINO HOUSE IN MANILA.

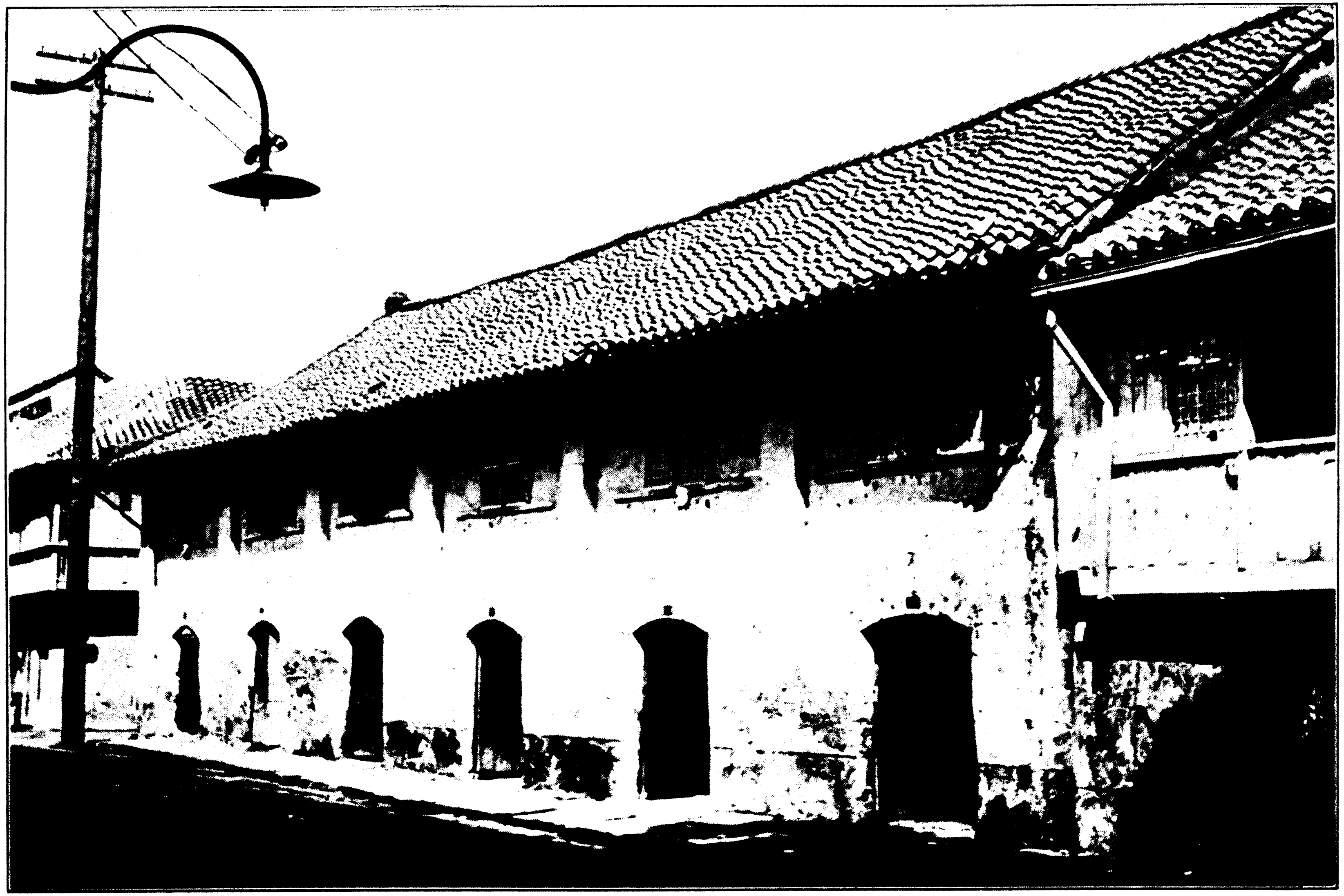

PLATE XVI. TYPE OF SPANISH HOUSE IN MANILA.

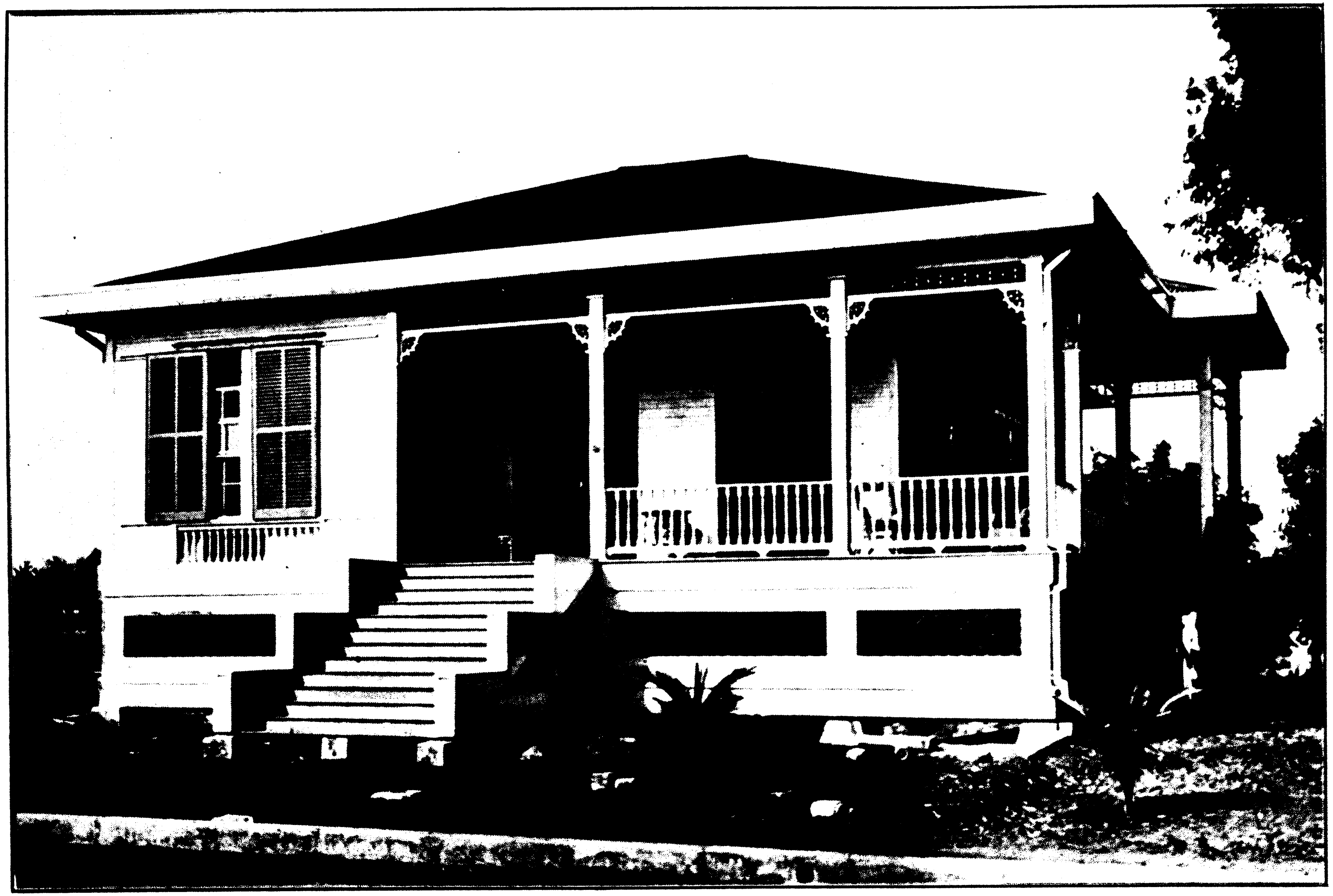

Plate XVII. TYPE OF AMERICAN HOUSE IN MANILA.

Plate XVIII. A NIPA DISTRICT.

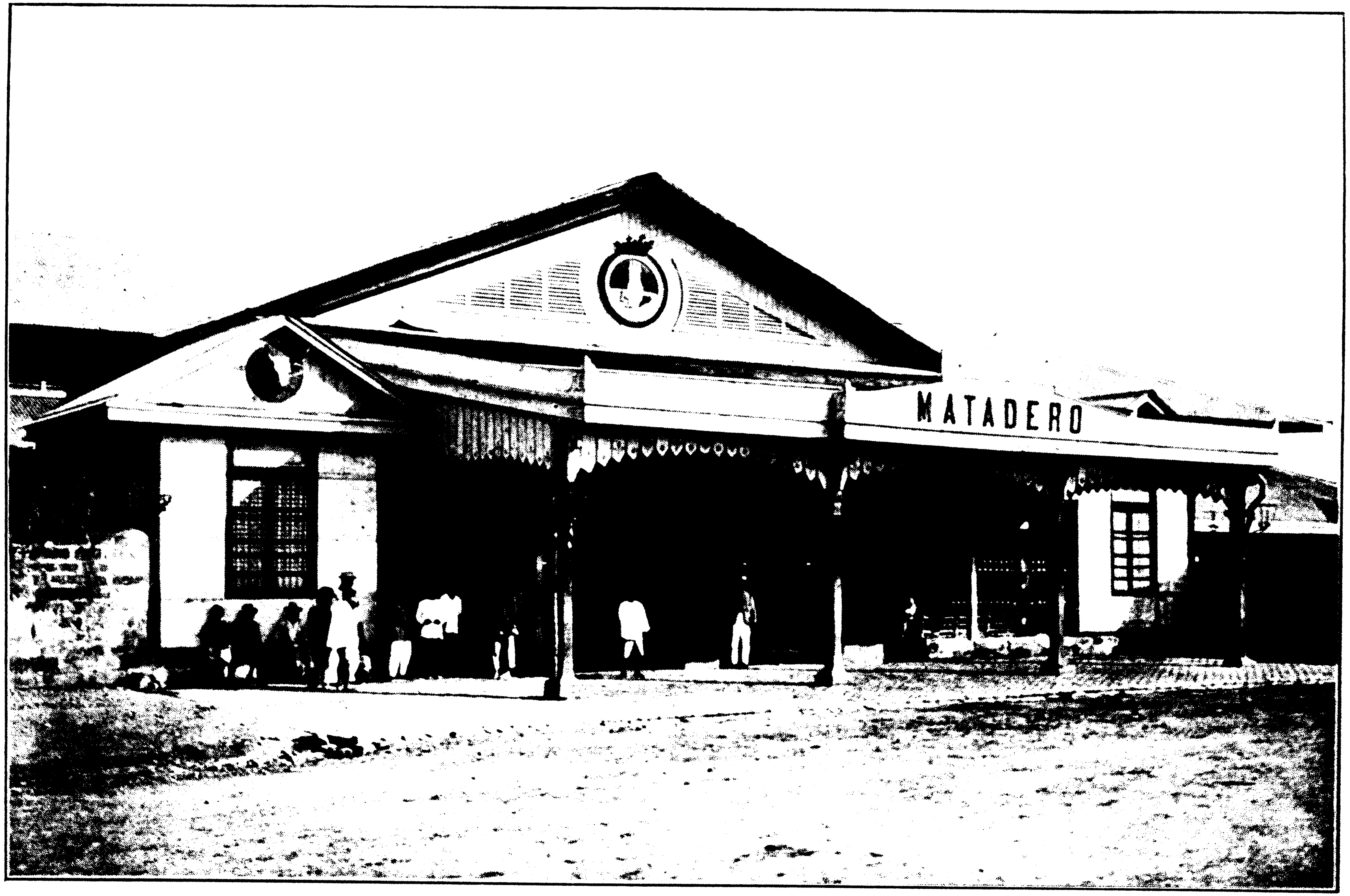

Plate XIX. MATADERO (MUNICIPAL SLAUGTERHOUSE), MANILA, P. I.

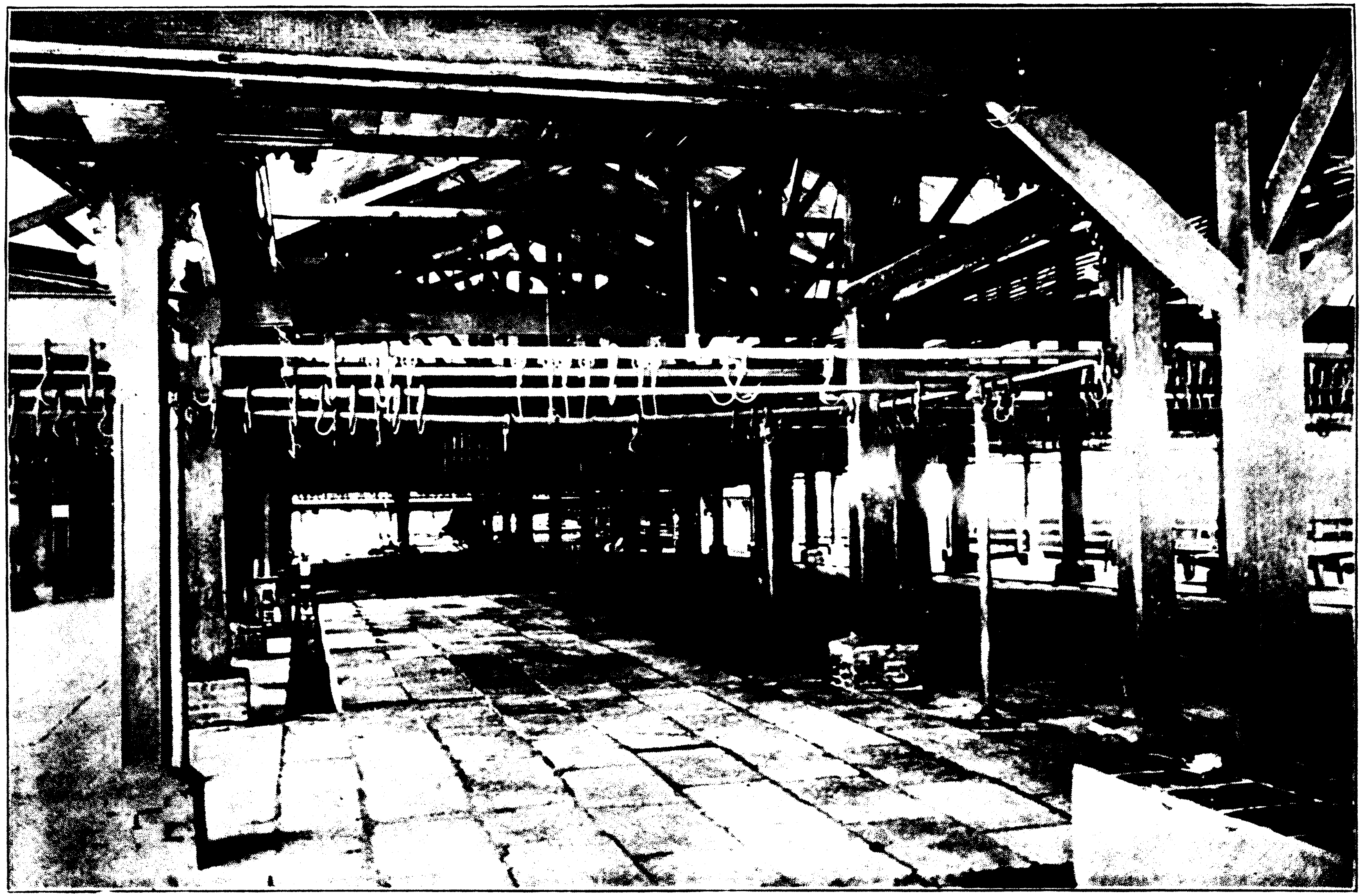

Plate XX. INTERIOR VIEW OF MATADERO (MUNICIPAL SLAUGHTERHOUSE).

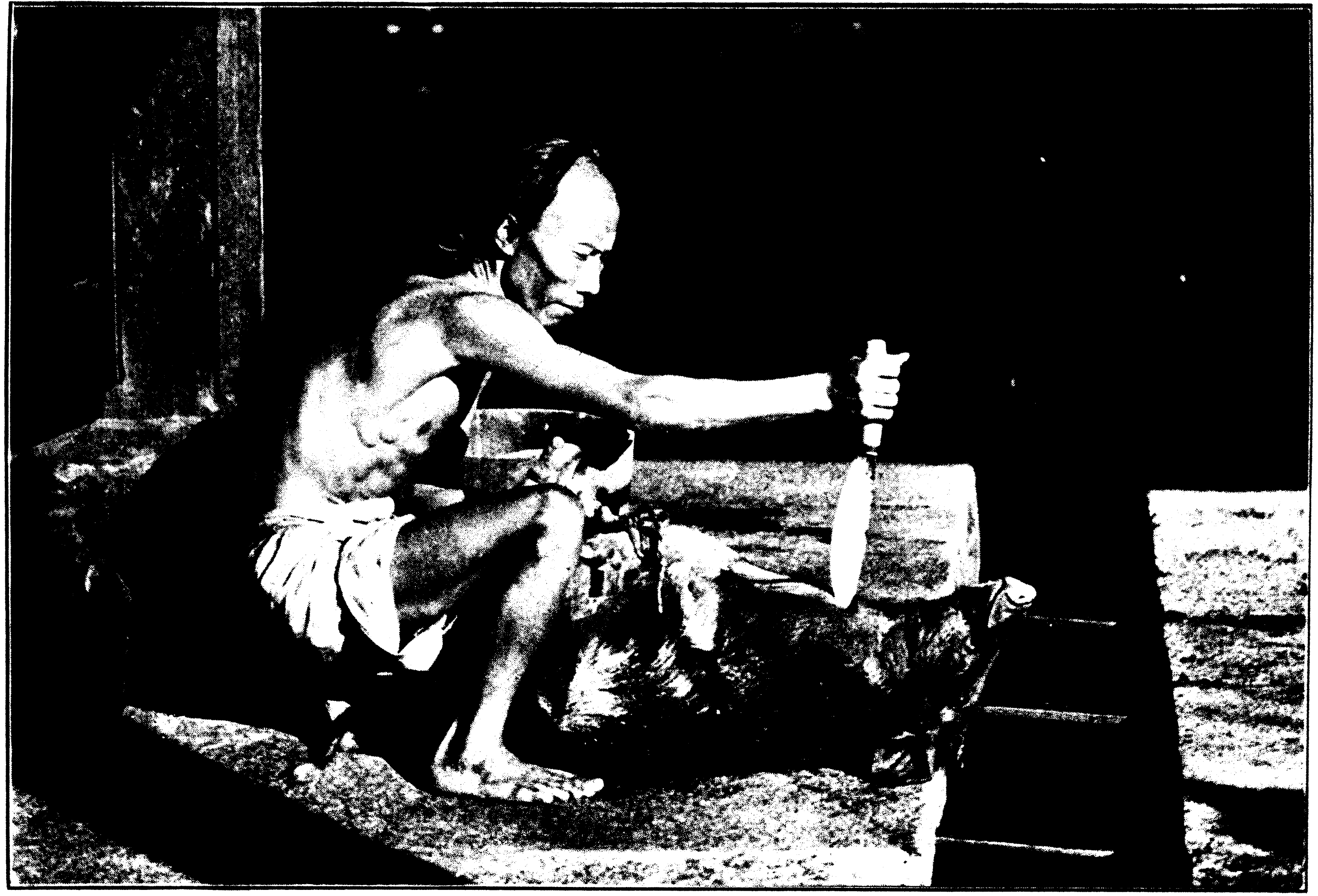

Plate XXI. METHOD OF KILLING HOGS AT THE MATADERO.

Plate XXII. METHOD OF KILLING CATTLE AT THE MATADERO.

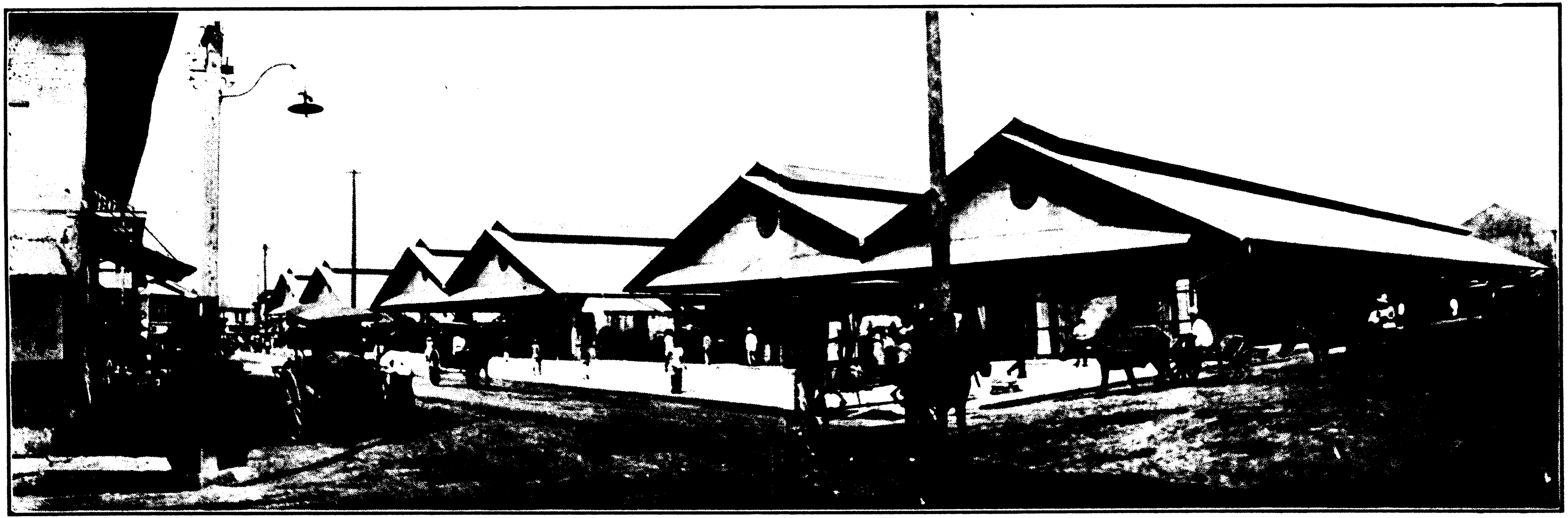

Plate XXIII. A STREET VIEW OF THE DIVISORIA MARKET.

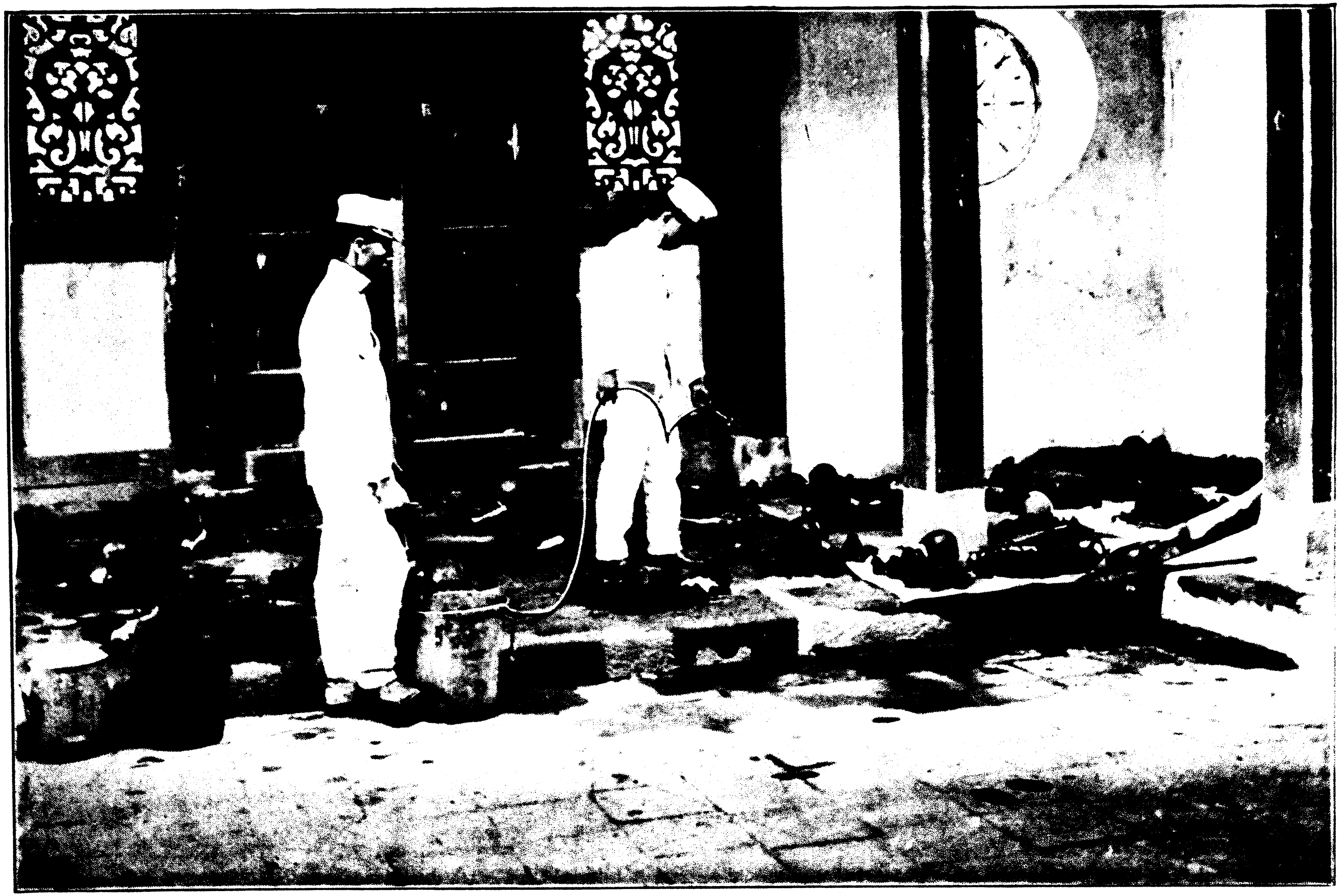

Plate XXIV. DISINFECTING DISINTERRED BONES OF CHINAMEN BEFORE SHIPMENT TO CHINA THEIR FINAL RESTING PLACE.

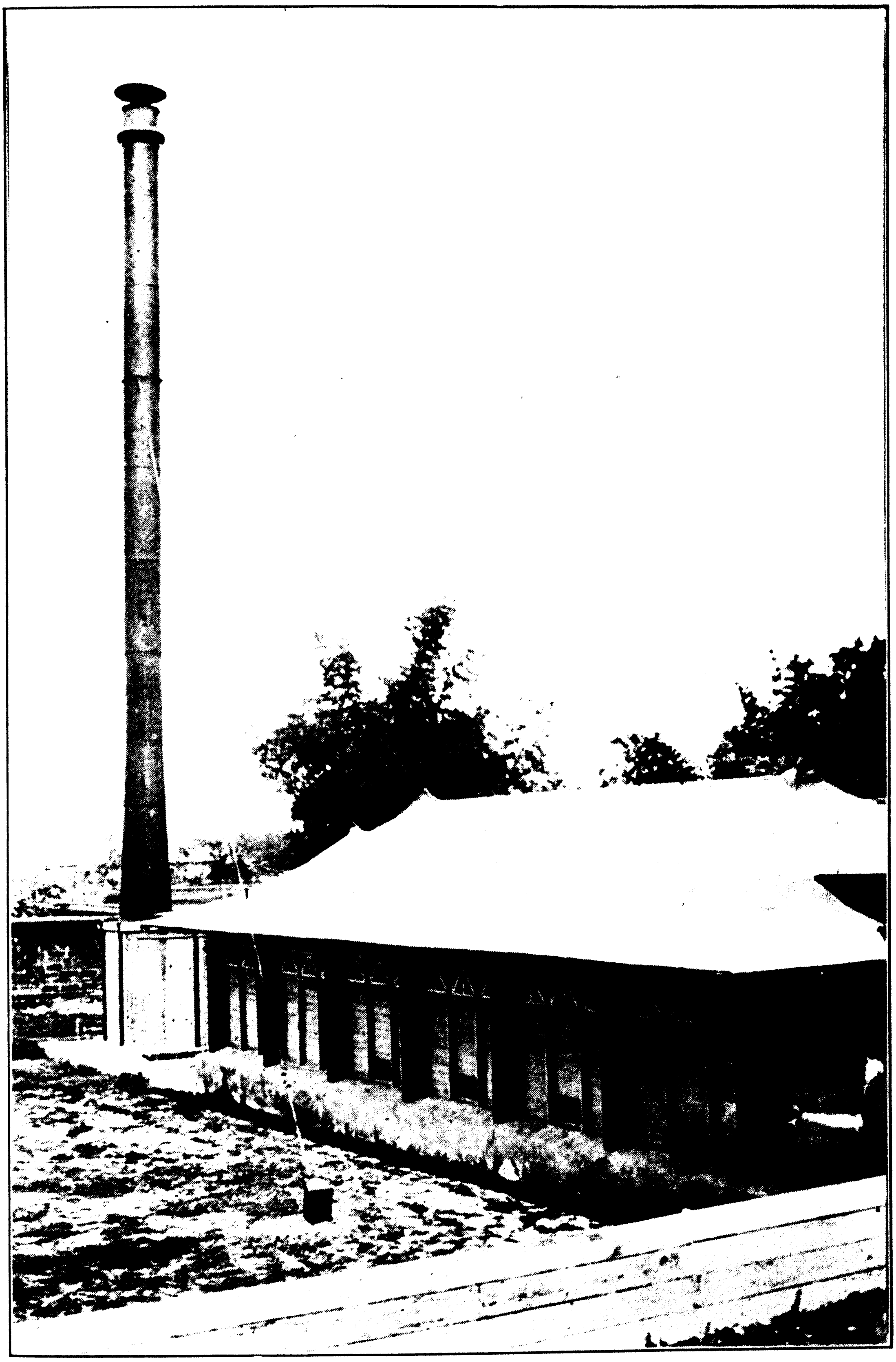

Plate XXV. SAN LAZARO MORGUE AND CREMATORY.

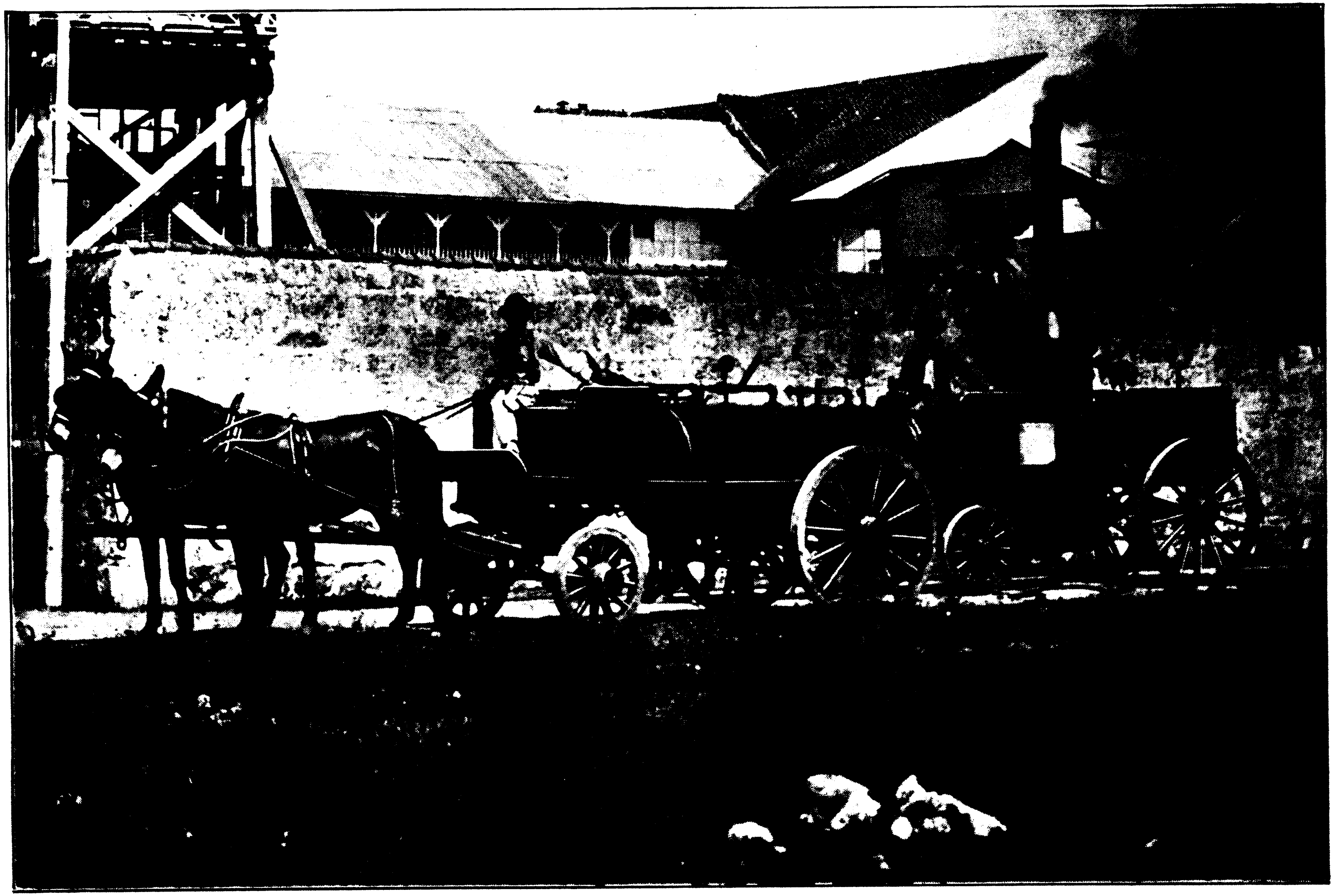

Plate XXVI. STEAM DISINFECTING APPARATUS, READY FOR USE.

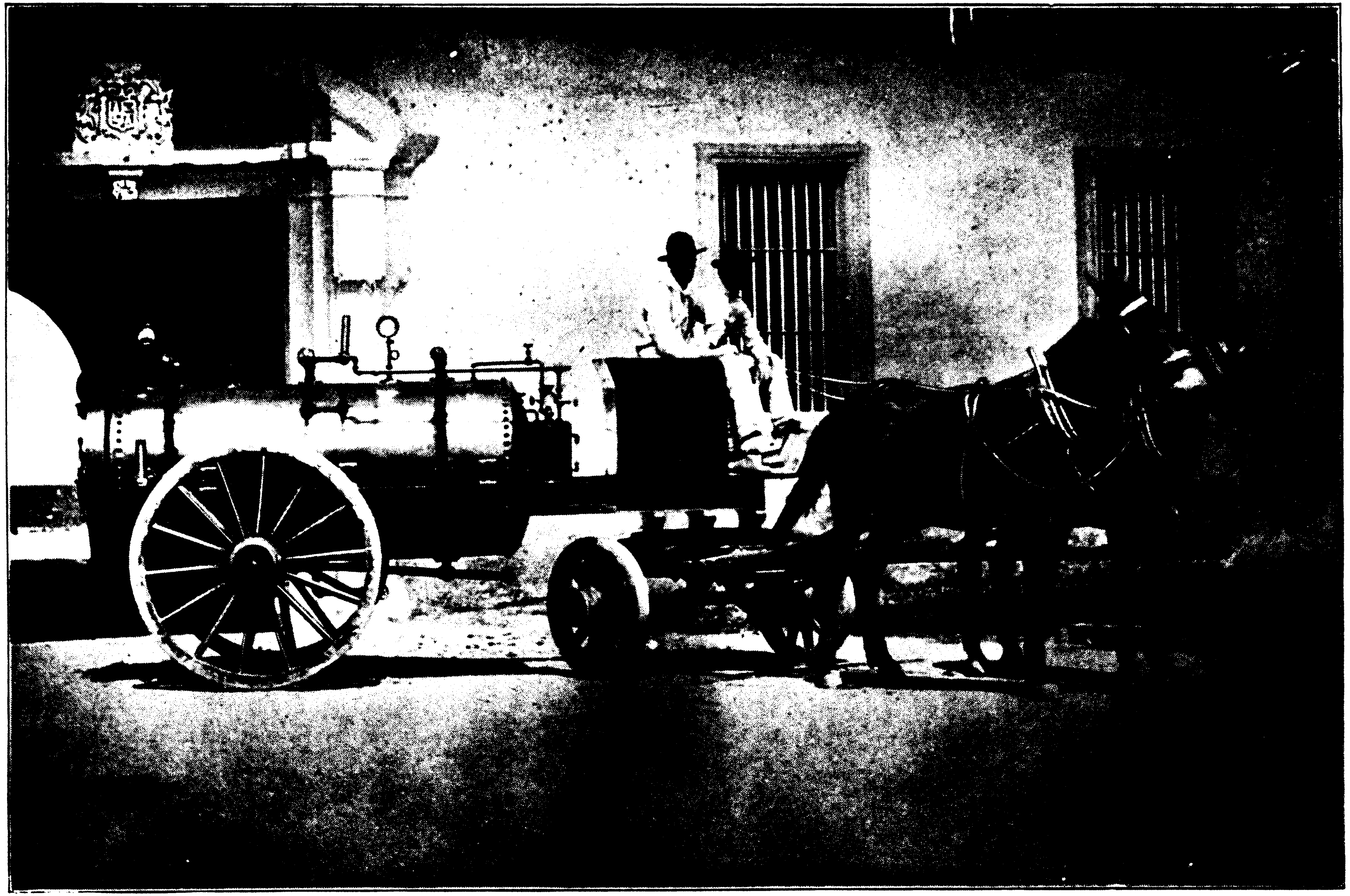

Plate XXVII. SECTION OF STEAM DISINFECTING APPARATUS.

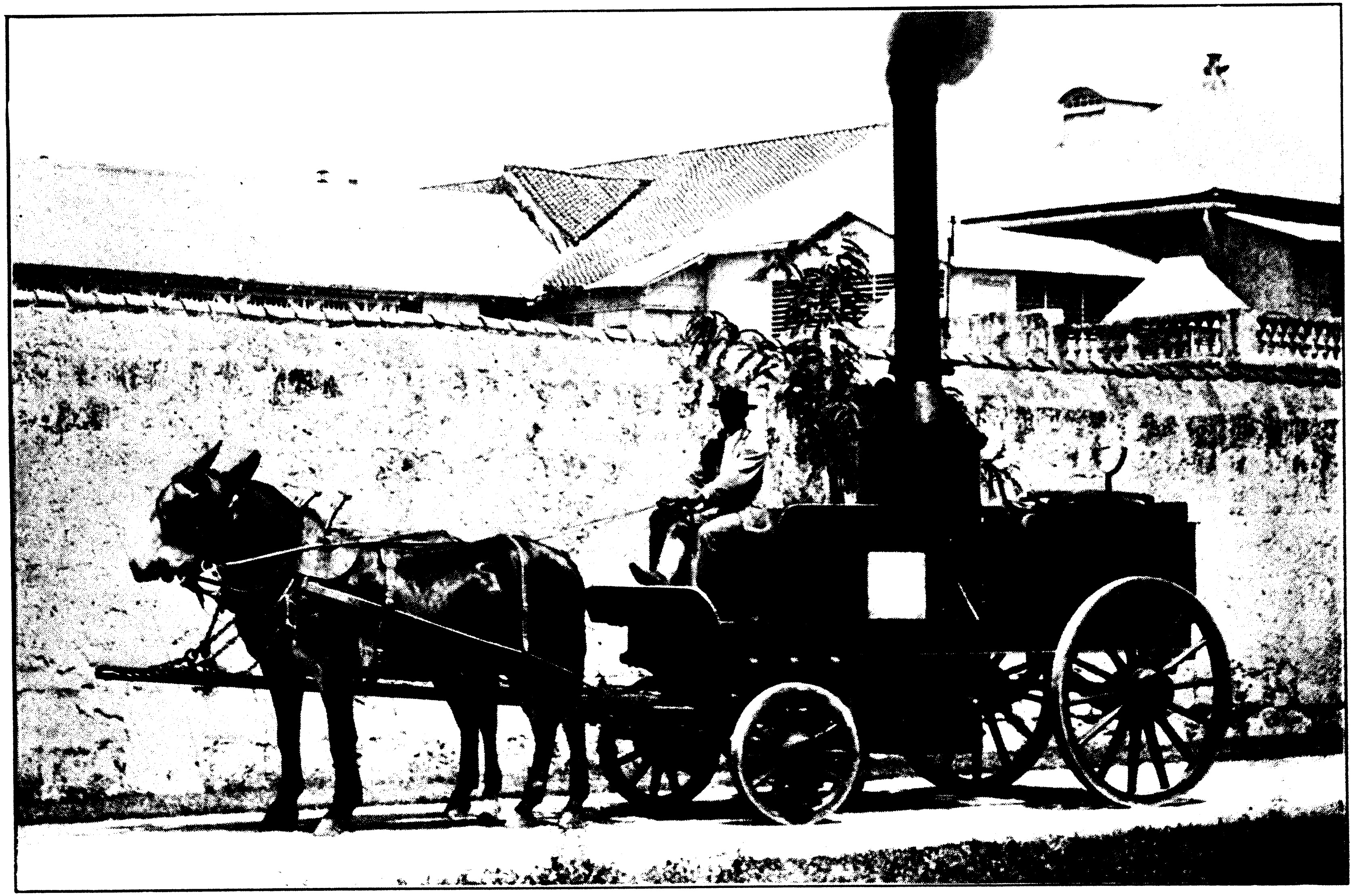

Plate XXVIII. SECTION OF STEAM DISINFECTING APPARATUS.

PLATE XXIX. SAN JUAN DE DIOS HOSPITAL, MANILA P. I.

Plate XXX. ST. PAUL'S HOSPITAL, MANILA, P. I.

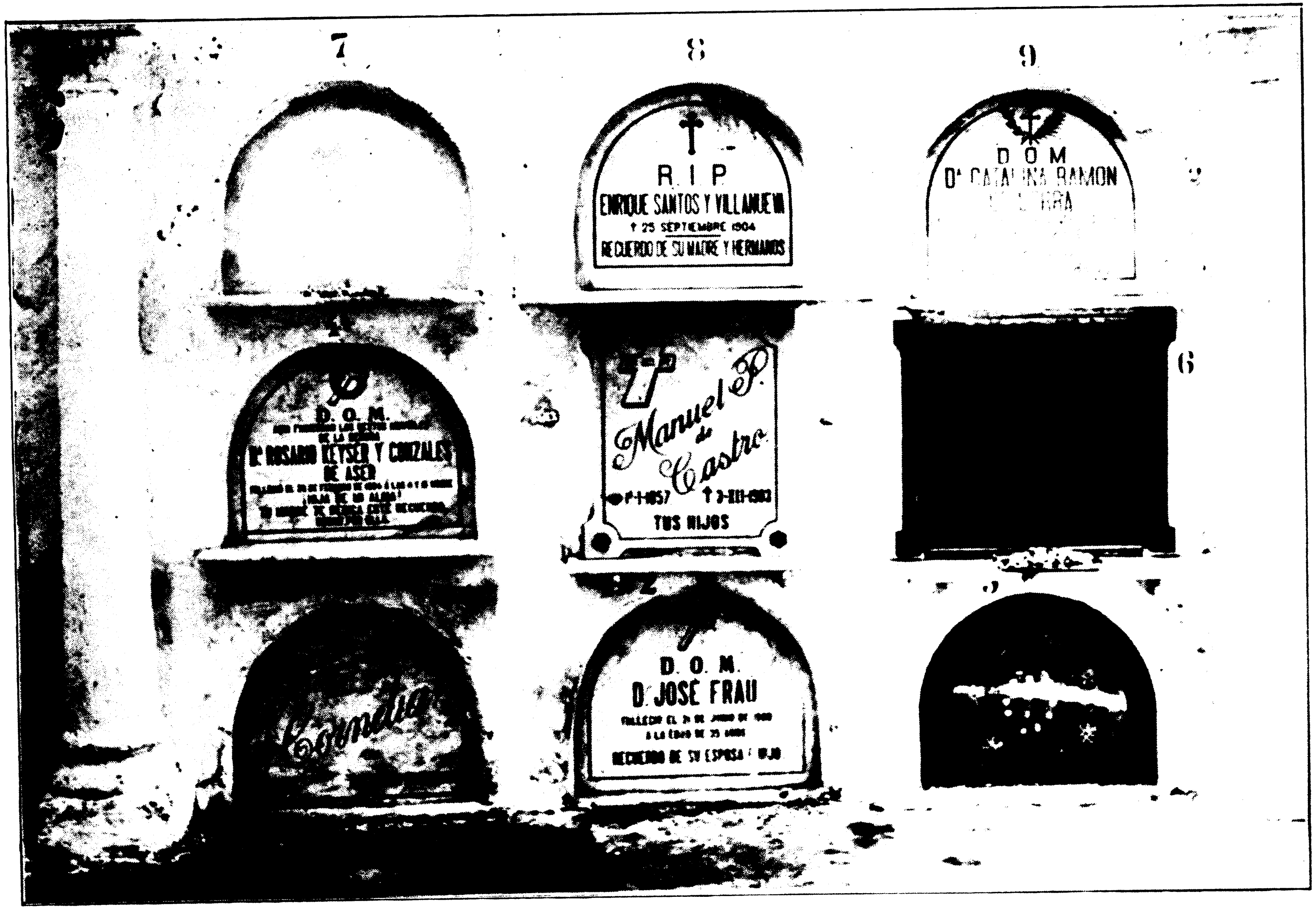
7
8
9
6
R. I. P.
ENRIQUE SANTOS Y VILLANUEVA
† 25 SEPTIEMBRE 1904
RECUERDO DE SU MADRE Y HERMANOS
D O M
Dª CATALINA RAMON
D. O. M.
Dª ROSARIO KEYSER Y GONZALES DE ASED
Manuel P. de Castro
TUS HIJOS
D. O. M.
D. JOSÉ FRAU
RECUERDO DE SU ESPOSA E HIJO

Plate XXXI. NICHES IN PACO CEMETERY.

Plate XXXII. INSANE MALE PATIENTS, SAN LAZARO HOSPITALS.

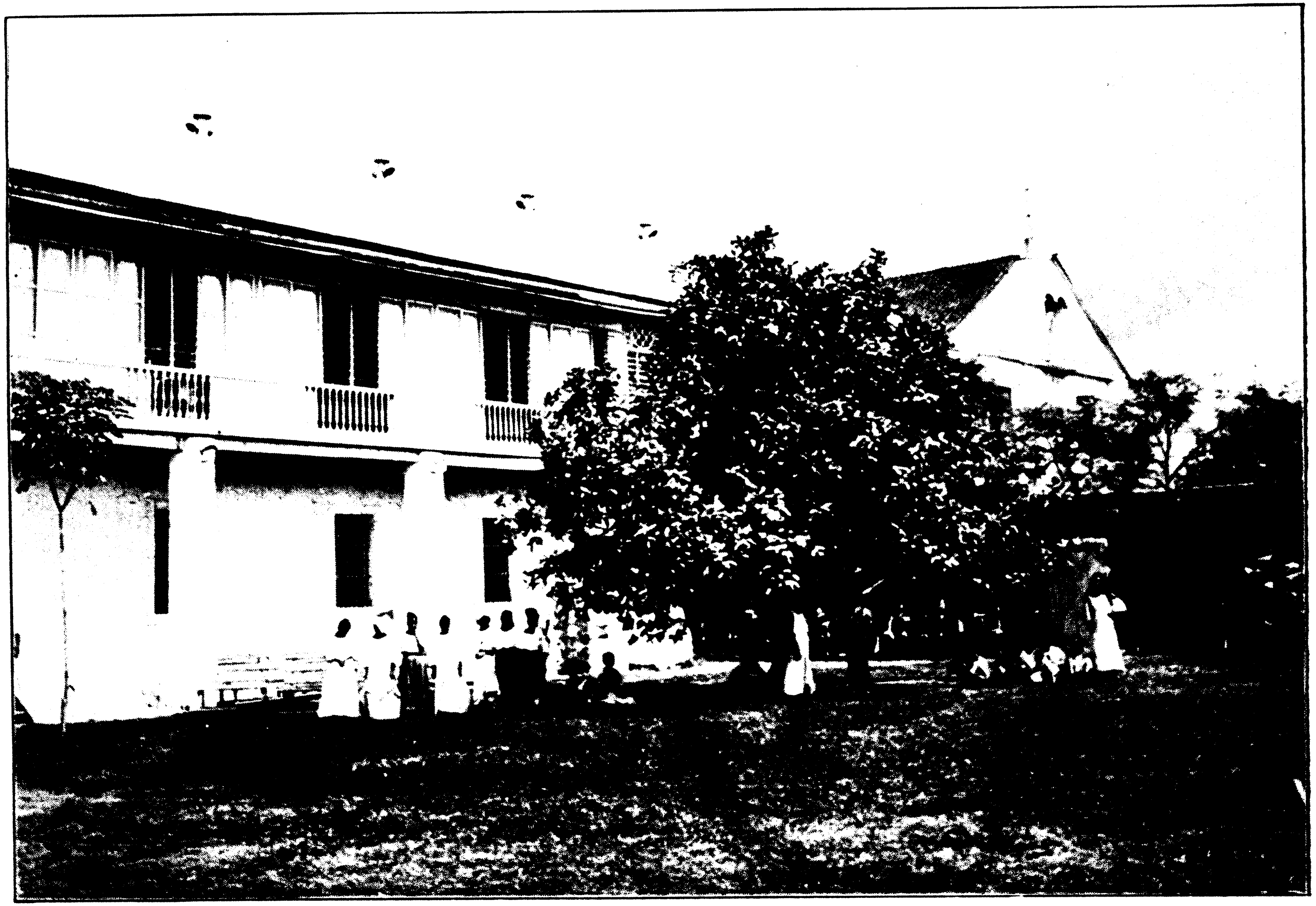

PLATE XXXIII. INSANE FEMALE PATIENTS, SAN LAZARO HOSPITALS.

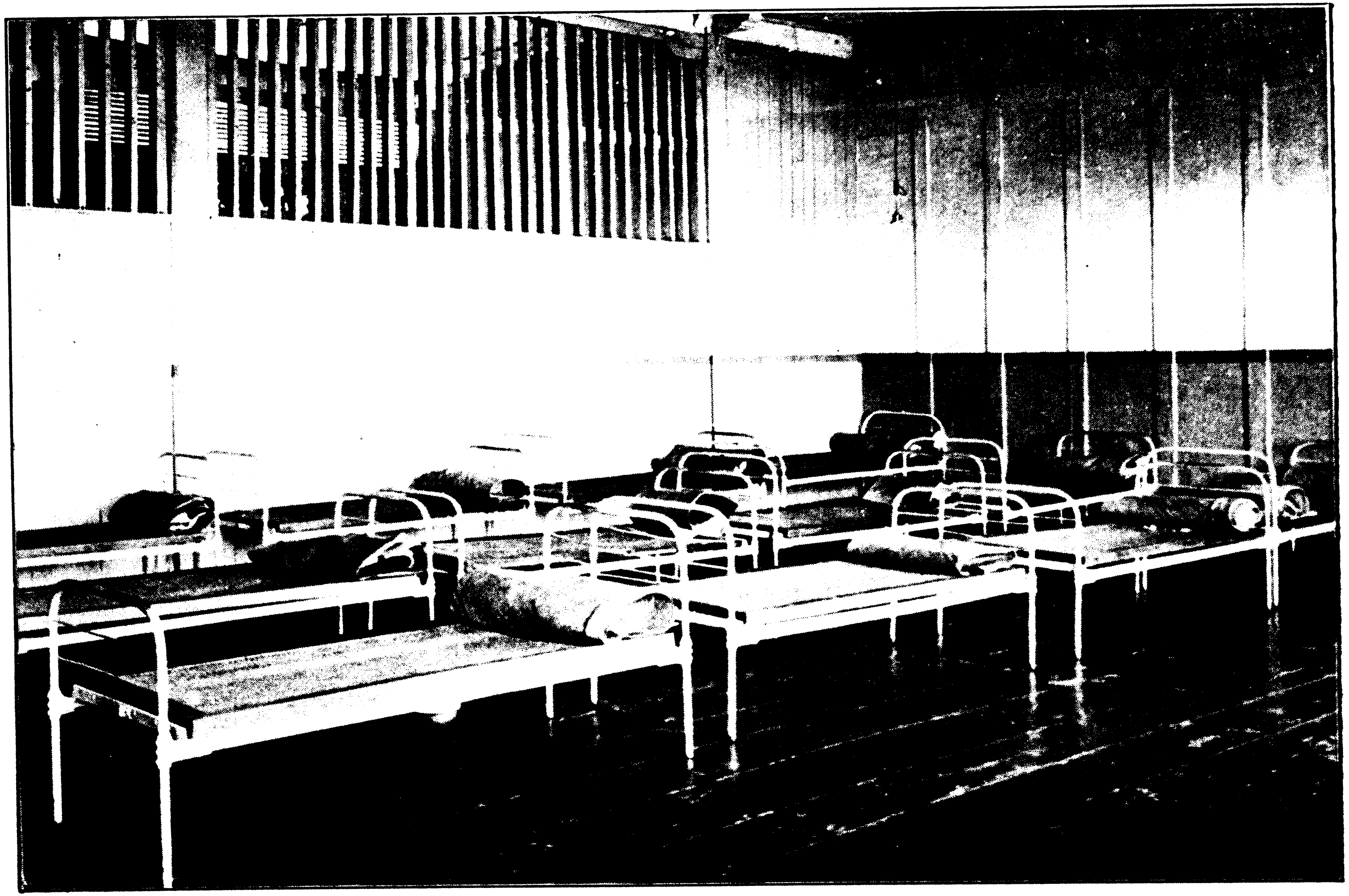

PLATE XXXIV. A DORMITORY IN THE INSANE DEPARTMENT, SAN LAZARO HOSPITALS.

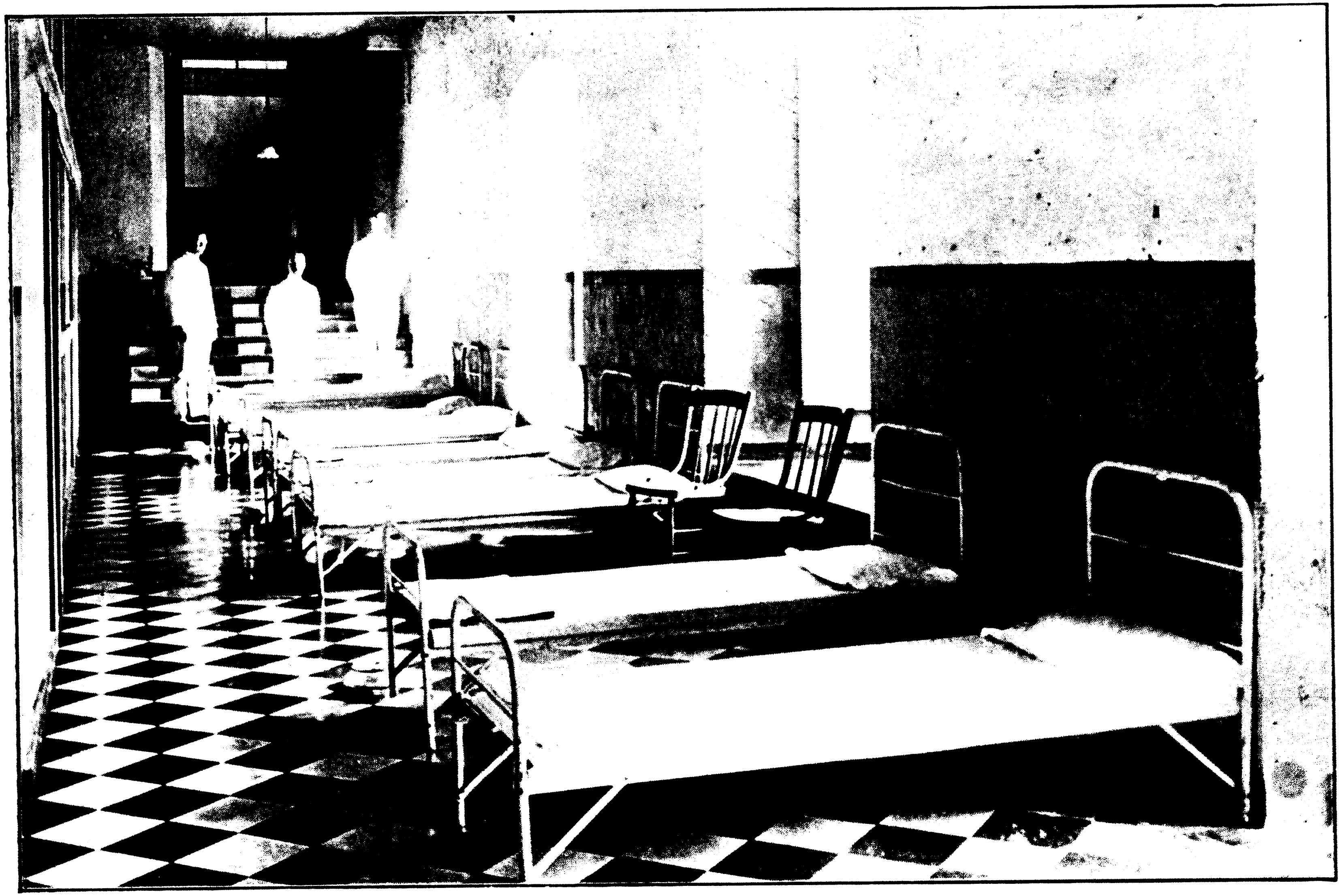

PLATE XXXV. FEMALE WARD, INSANE DEPARTMENT, SAN LAZARO HOSPITALS.

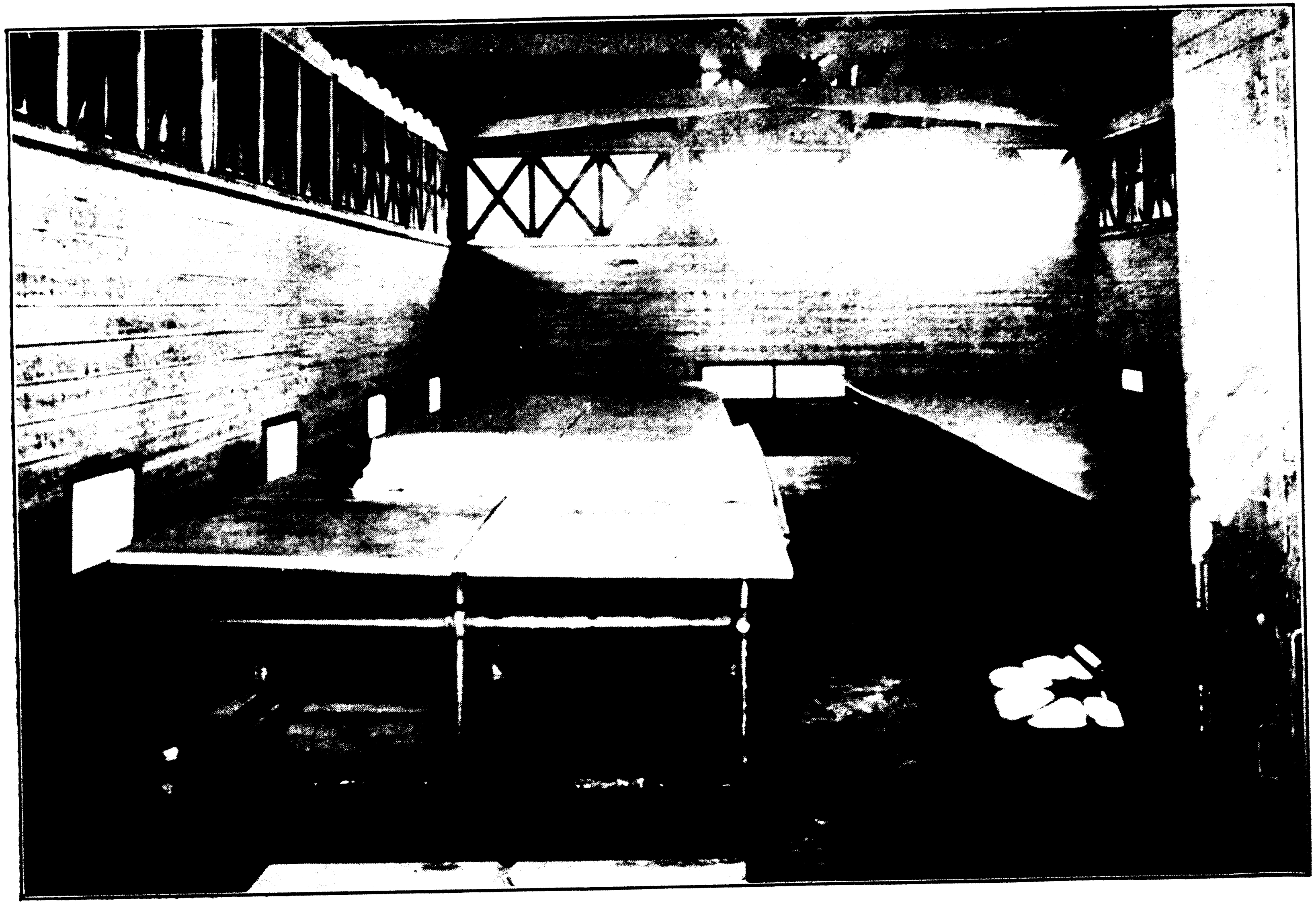

Plate XXXVI. INTERIOR VIEW OF MORGUE.